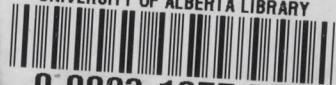


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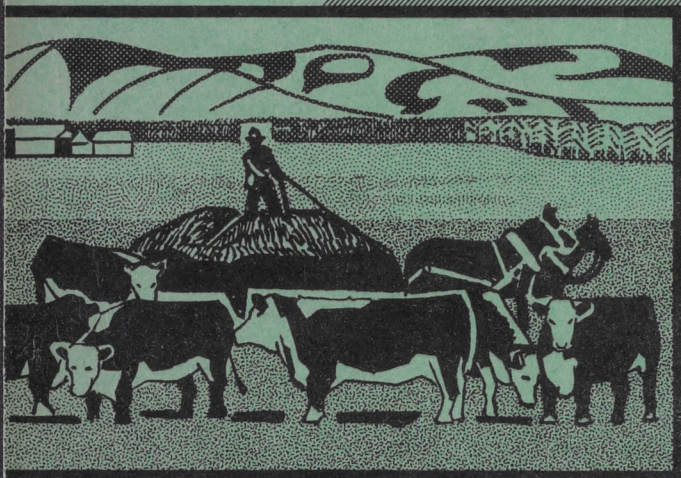
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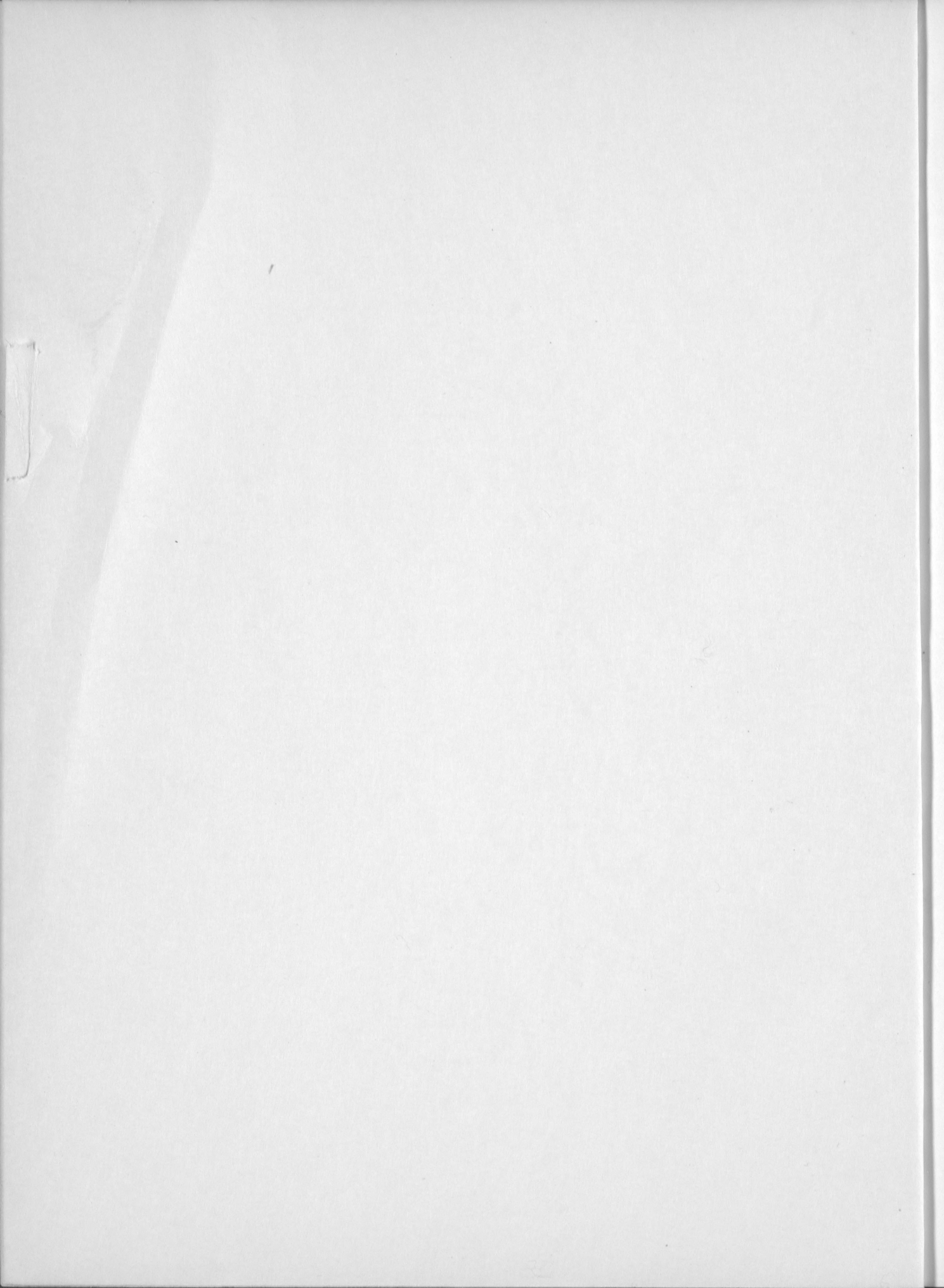


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and RELATED ACTIVITIES

1960 - 61

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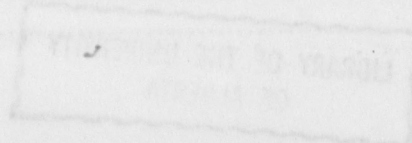
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PRAIRIE FARM REHABILITATION

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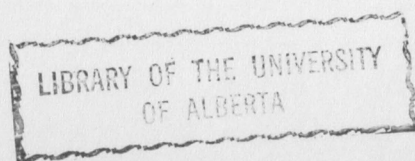


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INTRODUCTION

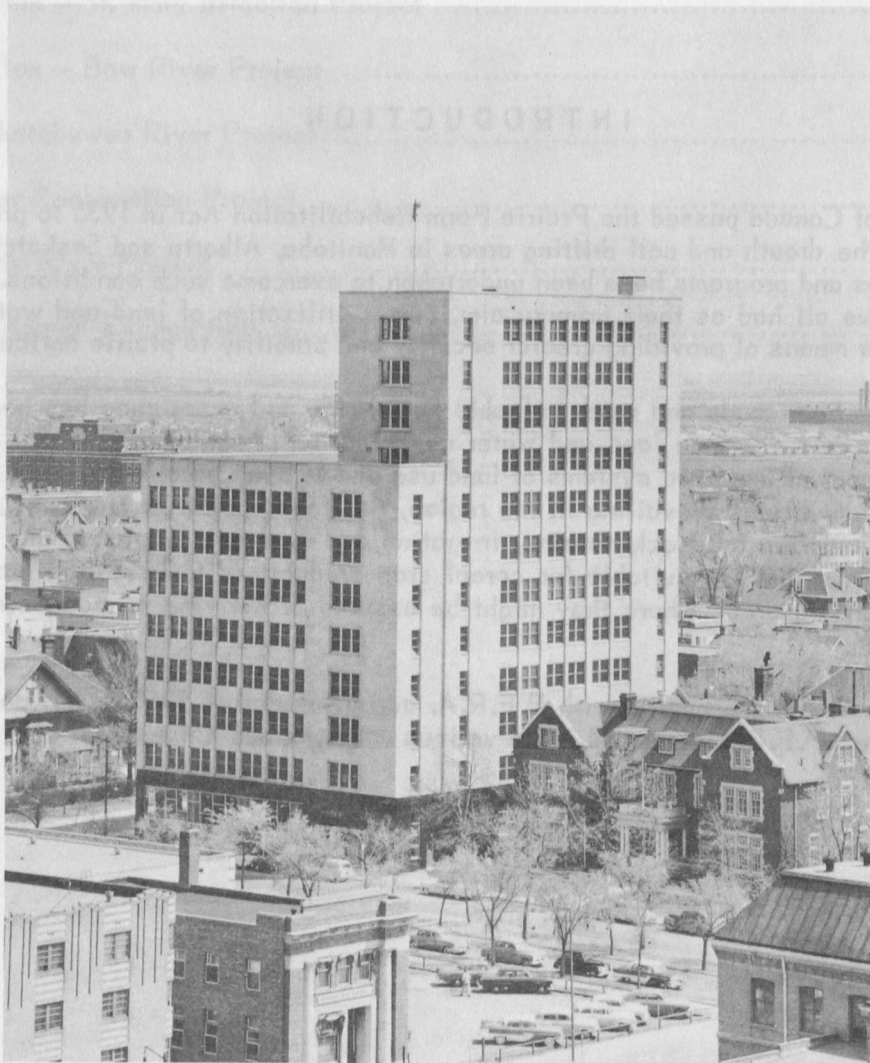
The Government of Canada passed the Prairie Farm Rehabilitation Act in 1935 to provide for the rehabilitation of the drouth and soil drifting areas in Manitoba, Alberta and Saskatchewan. Since then many policies and programs have been undertaken to overcome such conditions. In essence, however, they have all had as their primary aim, better utilization of land and water resources in the region, as a means of providing greater security and stability to prairie agriculture.

Much progress has been made and much valuable knowledge and experience has been gained on which to base future long-range land and water conservation planning in Canada. This has involved establishment of improved systems of land use and farming practice more in keeping with soil and climatic conditions prevailing in the region, the development of more assured farm and community water supplies for stockwatering, irrigation and domestic purposes, and the resettlement of farmers from lands unsuitable for cereal crop production, to irrigation projects and to better dry-land farming areas where they might be assured of deriving an adequate standard of living from farming.

The following report deals primarily with P.F.R.A. activities during 1960, but it does also, in a general way, review P.F.R.A. progress in its various undertakings since 1935.

The Motherwell Building in Regina, headquarters of the
Prairie Farm Rehabilitation Administration.

Ref. No. 10373



The Motherwell Building in Regina, headquarters of the
Prairie Farm Rehabilitation Administration.

Ref. No. 10373

WATER DEVELOPMENT PROGRAM

Over the larger part of the Canadian Prairies, rainfall is generally insufficient to maintain naturally occurring bodies of water, springs, and shallow wells. The conservation of surface runoff water to supplement this supply, therefore, is of primary importance. In recognition of this fact, the Government of Canada has, since 1935, sponsored a program of assistance under authority of the Prairie Farm Rehabilitation Act, to encourage conservation of this type, particularly as it will benefit agriculture.

ADMINISTRATION and ORGANIZATION

The Prairie Farm Rehabilitation Act is administered by a Director who is responsible to the Deputy Minister of Agriculture in Ottawa. The Director's office is located at Regina, Saskatchewan, where headquarters for the administration has been established. In addition to the Director's office, the organization at Regina consists of the Engineering Services Branch, the Agricultural Services Branch and Administration. The Director's office co-ordinates the activities of the different phases of work with operations conducted through regional, district and special project offices in the field.

The Engineering Services Branch, composed of the following Divisions - Air Photo Analysis and Engineering Geology, Soil Mechanics, Hydrology, Design, Surveys and Drainage, performs the engineering services required by the organization relating to the investigation, design and construction of all projects undertaken by P.F.R.A. Field engineering services are handled by the branch through three regional offices located at Regina, Calgary and Winnipeg.

The Agricultural Services Branch is responsible for all activities associated with the development of farm and community water storage and irrigation projects, and the development and operation of Community Pastures. District offices of the branch are located at Brandon in Manitoba, Weyburn, Gravelbourg, Melville, Saskatoon, Biggar, Swift Current and Maple Creek in Saskatchewan, and Medicine Hat, Fort Macleod, Wainwright and Hanna in Alberta. P.F.R.A. operates special project offices at Vauxhall and Lethbridge in Alberta, Cutbank in Saskatchewan, and Dauphin and The Pas in Manitoba, to handle the administration and supervision of work on major projects.

Ref. No. 22375

This is a broad program including the development of individual farm-sized water storage and irrigation structures, larger community projects, and large-scale water storage and irrigation works established on the more well-defined watersheds, depending upon the availability of water supply, number of people benefiting, and cost of construction.

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The Agricultural Services Branch is responsible for all activities connected with the development of farm and community projects. It is organized into three divisions: Extension and Operation of Community Projects, District Offices of Extension and Operation in Manitoba, Weyburn, Gravelbourg, Humboldt, Regina, and Moose Creek in Saskatchewan, and Medicine Hat, Fort Carlton, Hazyview and Hays in Alberta. District operators special project offices at Hazyview and Lethbridge in Alberta, Hazyview in Saskatchewan, and Dauphin and The Pas in Manitoba, to handle the organization and execution of work on major projects.

The Metherell Building in Regina, headquarters of the
Prairie Farm Rehabilitation Administration.

Ref. No. 10373

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Dugout provides water supply for garden irrigation and home use on well kept farm south of Regina.

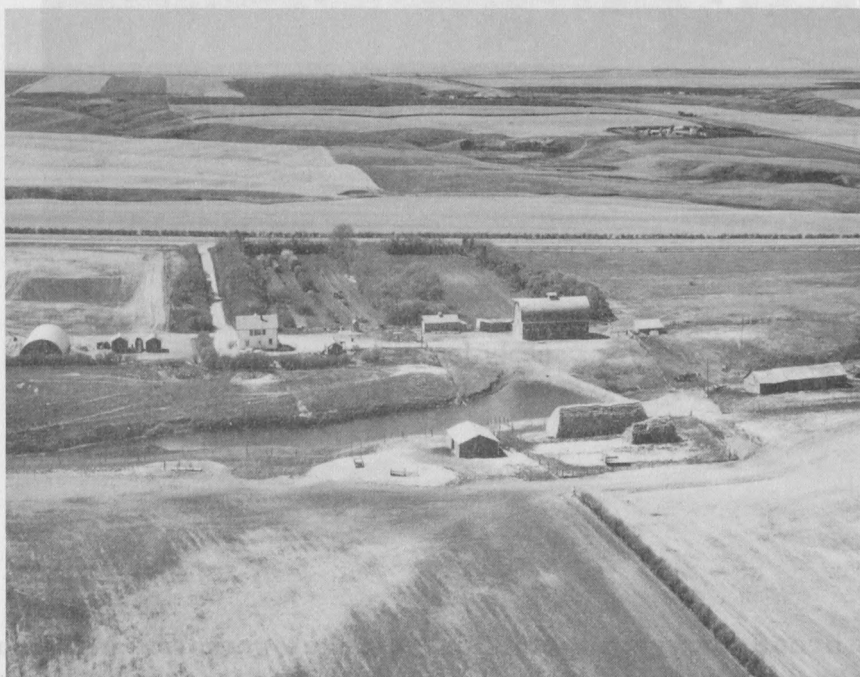
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This is a broad program including the development of individual farm-sized water storage and irrigation structures, larger community projects, and large-scale water storage and irrigation works established on the more well-defined watersheds, depending upon the availability of water supply, number of people benefiting, and cost of construction.

Farm and Community Projects

Farm projects generally take the form of a small dam or dugout built to serve a farm or neighboring farms. The principle is to help farmers help themselves, with P. F. R. A. supplying all agricultural and engineering services required, and approximately 50 per cent of the cost of construction.

Due to late season drouth conditions, a very heavy demand resulted for this type of project in 1960 bringing the total number of farm projects constructed during the 1960-61 fiscal year to 5,236 as compared with 4,327 projects the year previous. These included 4,577 dugouts, 491 stockwatering dams and 168 irrigation projects. Financial assistance received on these projects by farmers averaged \$206.12 on dugouts, \$153.39 on stockwatering dams and \$390.85 on irrigation projects, as compared with the long-term average assistance on such projects of \$121.55, \$93.44 and \$243.96. This increase reflects a general trend toward the construction of larger projects and an increase in the rate of financial assistance the Government of Canada now pays to farmers on the construction of such projects. The increase came into effect April 1, 1959.

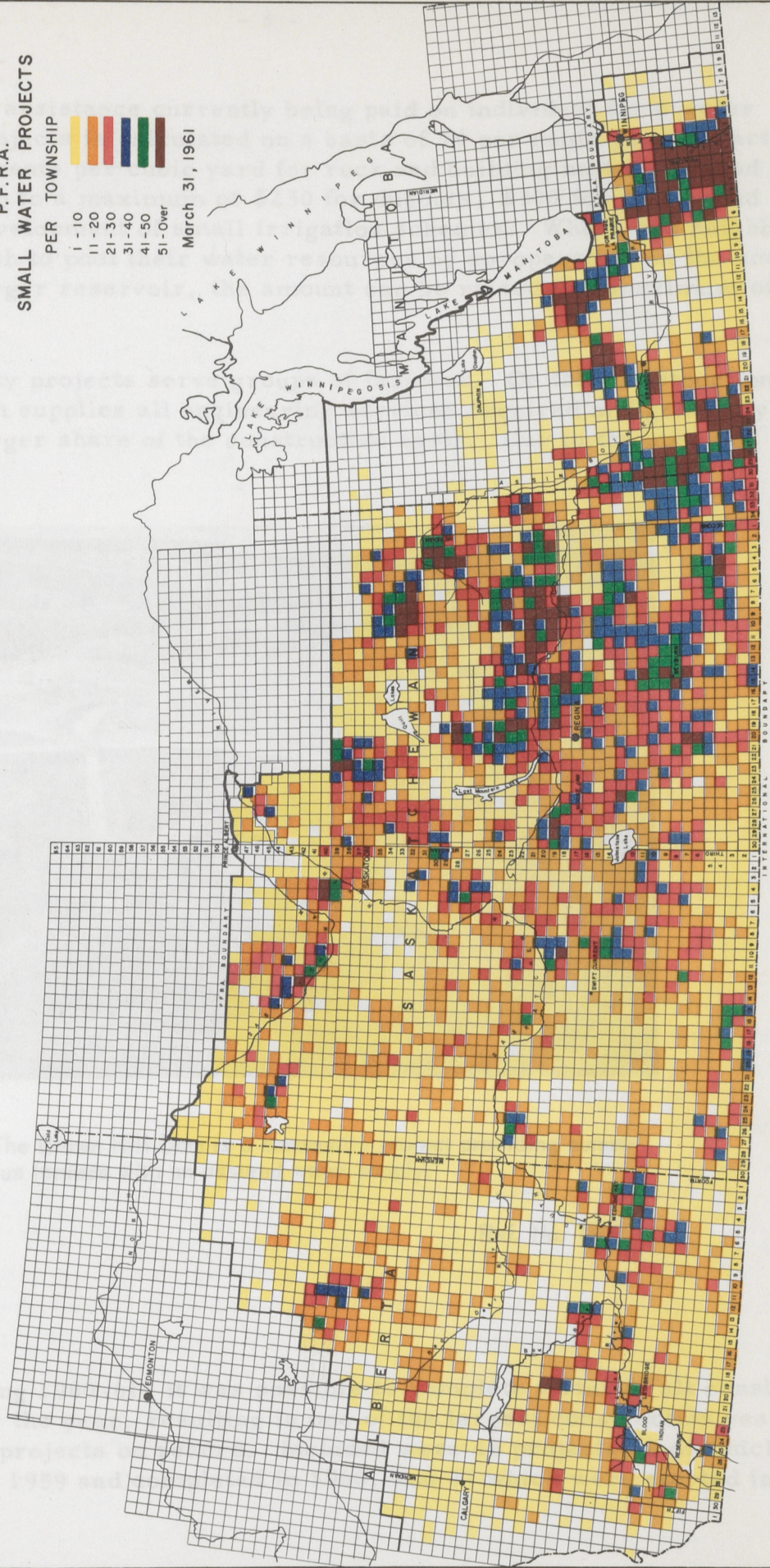


Stockwatering dam brings assured supply of water to this picturesque farm.

P.F.R.A. SMALL WATER PROJECTS PER TOWNSHIP



March 31, 1961



Financial assistance currently being paid on individual farm water development projects is calculated on a basis of 7¢ per cubic yard of earth moved, and 25 cents per cubic yard for rock and building materials used in construction, up to a maximum of \$250 for dugouts, \$300 for dams, and \$600 for the development of small irrigation schemes. Where two neighboring farmers wish to pool their water resources by co-operating on the construction of a larger reservoir, the amount can be raised to a maximum of \$1,000.

Community projects serve groups of farmers. On this construction, P. F. R. A. again supplies all engineering services required and generally assumes the larger share of the construction costs. Due to the open fall



The Brown Hill Dam is a community project providing numerous farmers with an assured water supply.

Ref. No. 19081

and winter during 1960-61, it was possible to complete virtually all construction planned for the year, resulting in one of the largest construction years for community projects on record. Included were 45 projects, 8 of which were started in 1959 and completed in 1960, and 37 which were started in 1960.

Large Water Development Projects

Large water conservation projects are undertaken by agreement between the Federal Government and provincial or local government concerned, in areas where there is a special need. During the year five of these projects were completed. A brief description of each of these is presented below.

Neepawa Storage Project

The Neepawa Dam is situated on the Whitemud River east of the town of Neepawa, Manitoba. This is a 30 foot high, earth structure extending across the valley of the Whitemud River for a distance of 1,800 feet, with a reinforced concrete chute-type spillway of 9,800 c. f. s. maximum discharge capacity. The reservoir capacity is approximately 4,000 acre feet of water, sufficient to balance the flow in the Whitemud River and in so doing, provide a dependable source of water for the livestock population in adjacent areas. It will also provide a dependable supply of water for domestic use in rural and urban centers in surrounding districts.

Construction of the dam was commenced in May 1959 and completed early in 1960.

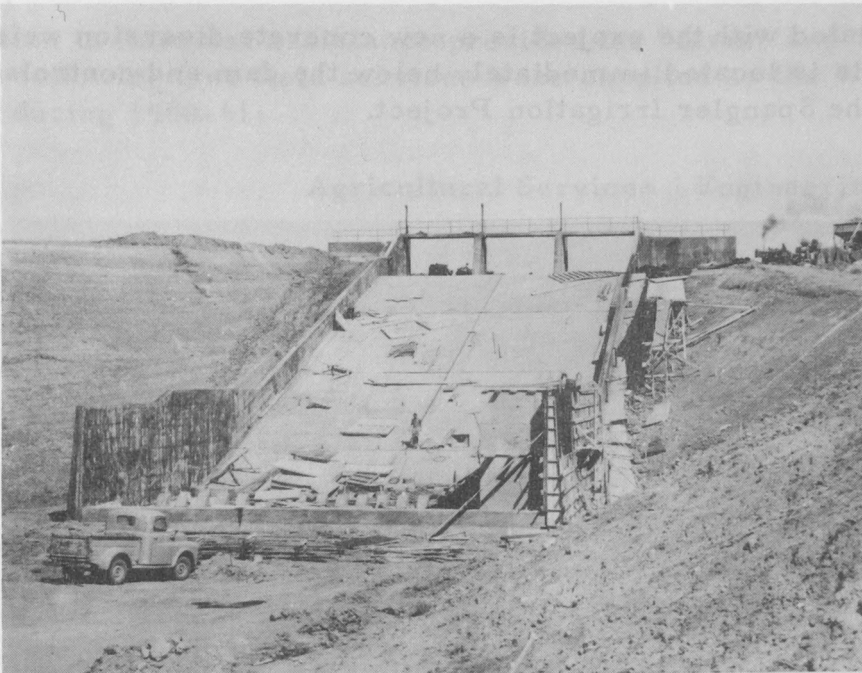
Souris-Oxbow Weir

Situated on the Souris River in the extreme southeastern corner of Saskatchewan, this new structure replaced a rock and timber weir built by P. F. R. A. in 1938. The new dam, like the old structure, is basically of rock and timber construction 175 feet long and 23 feet in height.

Construction began in October 1960 and was completed in March 1961. The reservoir will store approximately 340 acre feet of water, which will be utilized for stockwatering, irrigation and recreation.

Cabri Dam

This dam is located on Antelope Creek, approximately one mile from the town of Cabri, Sask. Work on this project consisted of the renovation and improvement of an older structure constructed by P. F. R. A. Due to serious deterioration of the concrete in the spillway and danger of failure, the riparian outlet was removed and a combined drop inlet and riparian structure was built. The old spillway was dyked off and will be used only in an emergency. The work was carried out during the 1960 summer period.



The newly constructed Altawan Dam spillway in southwestern Saskatchewan.

Ref. No. 21934-1

Altawan Dam

This dam is on Lodge Creek about seven miles southwest of Govenlock, in the extreme southwestern part of Saskatchewan. Located as it is in one of the driest rangeland areas of Western Canada, the project will play a major role in providing an assured water supply for stockwatering, irrigation and streamflow maintenance.

Construction was started in 1959 and completed during the summer of 1960. The dam is approximately 55 feet in height and 1,200 feet wide, possessing both a reinforced concrete spillway and an emergency spillway. The reservoir will hold 5,830 acre feet of water.

Associated with the project is a new concrete diversion weir constructed in 1960. This is located immediately below the dam and controls the supply of water to the Spangler Irrigation Project.



A diversion weir on the Spangler Irrigation Project below the Altawan Dam.

Ref. No. 21464-2

Rivers Water Storage Project

The Rivers Dam on the Minnedosa River, is about one mile northeast of the town of Rivers, Man. It will create a reservoir capable of providing a reliable supply of water for livestock throughout the areas associated with the project, and of sufficient size to make plentiful supplies of water available for domestic use in surrounding communities. The Rivers Project will also assist in maintaining the stream flow in both the Minnedosa and Assiniboine rivers.

Construction began in June 1958 and continued through 1959 and into 1960. Work undertaken during the current fiscal year involved completion of the uppermost 15 feet of embankment, placing of rock protection on the upstream face of the dam, and general cleaning up operations.

Technical Assistance

In addition to financial assistance provided for "farm" and "community" projects, the following free field services were supplied by the Water Development Branch during 1960-61:

Agricultural Services Engineering Services

Dugouts

Preliminary Calls	1,631
Final Inspections	3,955
Miscellaneous Inspections	936

Stockwatering Dams

Preliminary Calls	387	
Final Inspections	176	422
Miscellaneous Inspections	166	951
Surveys Completed		507
Plans Prepared		433

Irrigation

Preliminary Calls	398	
Final Inspections	89	172
Miscellaneous Inspections	205	830
Surveys Completed		396
Plans Prepared		256

Community Projects

Preliminary Calls	136	
Final Inspections	40	
Miscellaneous Inspections	172	
Projects Investigated		191
Projects Built		41
Surveys and Plans Prepared		32
Maintenance		56

Sub Totals	8,291	4,287
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TOTAL		<u>12,578</u>
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COMMUNITY PASTURE PROGRAM

P. F. R. A. community pastures in Saskatchewan and Manitoba are located on lands not suited for the growing of grain crops. Some of the pasture land is owned but the majority is leased to the Government of Canada by agreement with the provinces. The Federal Government agrees to construct, operate, maintain and improve community pasture facilities in the areas designated by these provinces.



A dam in Caledonia Community Pasture creates a reservoir for stockwatering.

Ref. No. 22068

Since 1937, sixty-eight pastures, enclosing an area of 1,933,834 acres have been constructed by P. F. R. A. , including the Bitter Lake Irrigation and Bull Development Station. This area is divided into five Supervisory Territories with headquarters at Brandon, Weyburn, Swift Current, Kindersley and Saskatoon. During the year 6,362 patrons pastured 121,263 cattle, 1,096 horses and 2,250 sheep.

Pasture Operations

The 1960 grazing season extended from the first week in May to the end of October except in Val Marie Pasture #1 and Bitter Lake Pasture where special arrangements were made to graze a limited number of cattle to the end of December at the regular rates. The 1960 spring runoff, in most cases, filled dams and dugouts thus providing adequate stock water during the grazing season. Grass made good growth following heavy June rains and pastures went into the winter with an adequate carryover of grass except for a few pastures in southwest and west-central Saskatchewan. Applications in excess of carrying capacity totalled over 30,000 cattle and occurred in all but two of the Saskatchewan pastures. This resulted in serious allocation problems for the Advisory Committees. To overcome this, considerable numbers of cattle were trucked long distances from grass-short areas to the Royal and Beaver Hills pastures in Saskatchewan and to several of the Manitoba pastures where surplus pasturage existed.

Allocation of Pasturage

Pasture Advisory Committees allocate pastures on the basis of need in accordance with established policy. The committee also sets the maximum number of stock per patron which varies according to local conditions. P.F. R.A. annually establishes the carrying capacity of each pasture.

The following is a schedule of pasture fees and service charges in effect during the 1960 season:

Grazing Rates

Cattle per day per head	.03
Horses per day per head	.04
Sheep per month per head	.10 (provide own herder)
Cows (breeding service)	3.00 per head
Calves of current year, sucking with dam, born before August 1st.	3.00 per head
Colts of current year, sucking with dam, born before August 1st.	4.00 per head

Minimum grazing fees per head per season

Cattle	3.00
Horses	4.00
Sheep	.30

Rates for Vaccine and Other Services

Vaccines	.15 per single dose
Dehorning	.50 per head
Warble and Horn Fly Spraying	.15 per head
Mineral Supplement	.35 per head
Castration: Cattle under 6 mos.	1.00 per head
Cattle 6 mos. & over	2.00 per head
Special Vaccines	At Cost



Patrons sort their cattle at Wellington Community Pasture at the end of the grazing season.

Ref. No. 14275

Haying

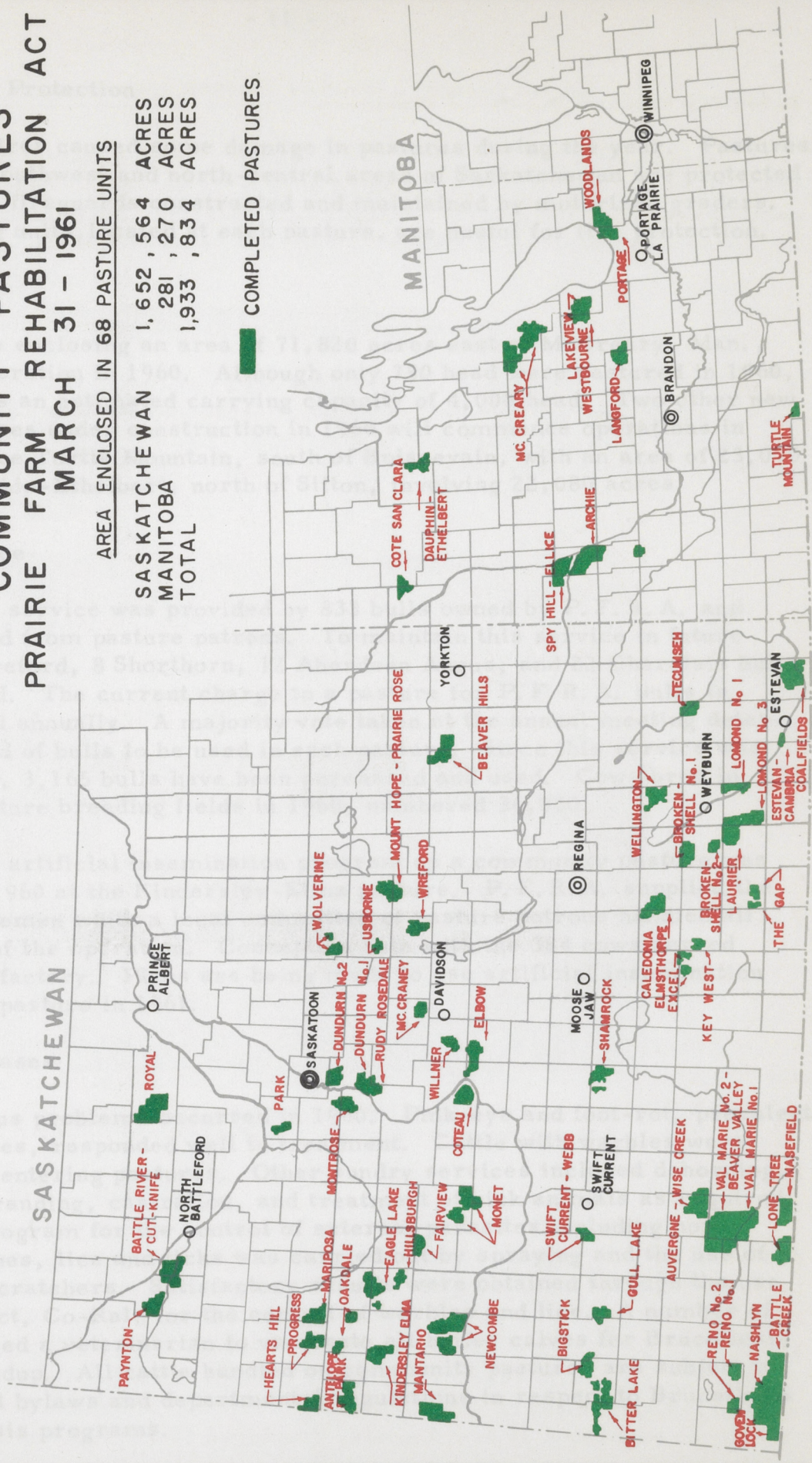
During the year, 4,500 tons of hay were harvested on community pastures for the purpose of feeding bulls and headquarters stock. In 16 pastures, 3,500 acres were reseeded to grass - 652 acres to crested wheat grass, 385 acres to brome and crested wheat grass and 2,466 acres to mixed grasses. Brome grass seed harvested totalled 11,600 pounds.

COMMUNITY PASTURES
PRAIRIE FARM REHABILITATION ACT
MARCH 31 - 1961

AREA ENCLOSED IN 68 PASTURE UNITS

SASKATCHEWAN	1,652	, 564	ACRES
MANITOBA	281	, 270	ACRES
TOTAL	1,933	, 834	ACRES

COMPLETED PASTURES



Fires and Fire Protection

Prairie fires caused some damage in pastures during the year. Pastures located in the southwest and north-central areas of Saskatchewan are protected by 800 miles of fireguards constructed and maintained by motorized graders. Power spraying units, located at each pasture, are useful for fire protection.

New Pastures

A pasture enclosing an area of 71,820 acres east of McCreary, Man., was put into operation in 1960. Although only 750 head were pastured in 1960, this pasture has an estimated carrying capacity of 4,000 head. Two other new Manitoba pastures under construction in 1960 will commence operations in 1961. These are Turtle Mountain, south of Boissevain, with an area of 23,070 acres and Dauphin-Ethelbert, north of Sifton, involving 22,080 acres.

Breeding Service

Breeding service was provided by 833 bulls owned by P.F.R.A. and 302 bulls rented from pasture patrons. To maintain this service in future years, 244 Hereford, 8 Shorthorn, 12 Aberdeen Angus, and 22 Charolais bulls were purchased. The current charge to a pasture for P.F.R.A. bulls is \$40.00 per bull annually. A majority vote taken at the annual meeting determines the breed of bulls to be used in each pasture. Since this service was started in 1938, 3,165 bulls have been purchased and used. Cows bred in community pasture breeding fields in 1960, numbered 36,000.

The first artificial insemination program on a community pasture was undertaken in 1960 at the Kindersley-Elma pasture. P.F.R.A. supplied the facilities and semen while a local committee of pasture patrons handled all other aspects of the operation. Conception rate with the 384 cows served was quite satisfactory. Plans are being made to use artificial insemination in the Laurier pasture in 1961.

Livestock Diseases

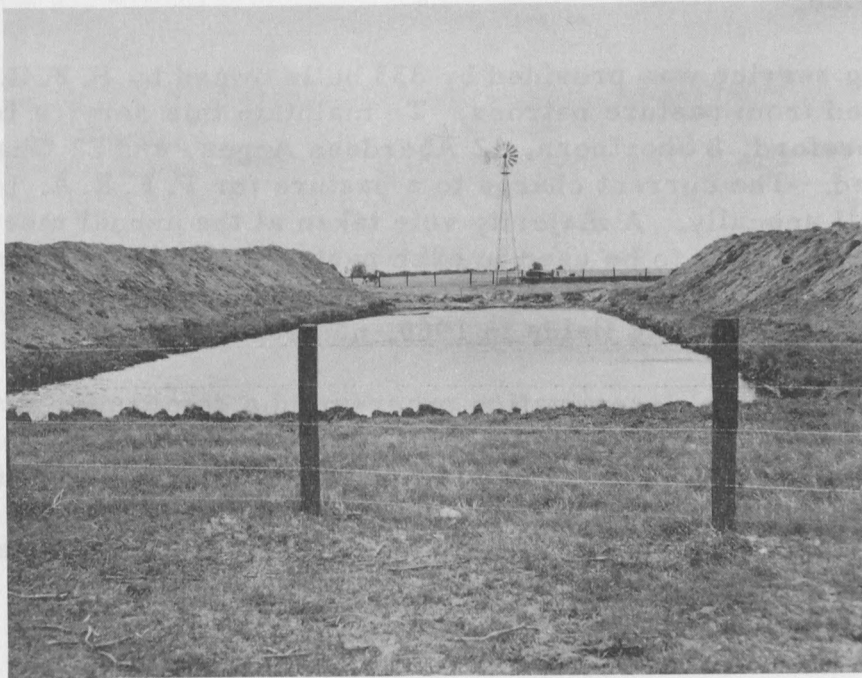
No serious problems occurred in 1960. Pink-eye and foot-rot, prevalent in many pastures, responded well to treatment. Cattle with warbles were treated before entering pastures. Other sundry services included dehorning, vaccination, branding, castration, and treatment of sick animals as required. An effective program for the control of external parasites including horn flies, mosquitoes, lice and ticks was carried out by spraying and the use of treated back-scratchers. Satisfactory results were obtained through the use of a new product, Co-Ral, for the control of warbles and lice. A number of pastures engaged a veterinarian to vaccinate all heifer calves for Brucellosis at the fall roundup. All cattle handled on community pastures are subject to local municipal bylaws and departmental regulations in respect to Brucellosis and Tuberculosis programs.

Livestock Insurance

Losses included 623 cattle and 6 horses - approximately one half of one per cent of the total livestock handled during the season. These losses were partly covered by insurance. Patrons in 37 pastures carry mutual insurance and insurance reserves at March 1, 1961 totalled \$64,042.74.

Pasture Construction

During the year seven construction crews enclosed a total area of 47,470 acres, the greater part of which represented the new Turtle Mountain and Dauphin-Ethelbert pastures in Manitoba. Two complete sets of headquarters buildings were erected and 202 miles of new fences built.



A fenced dugout and windmill in Willner Community Pasture.

Ref. No. 17570

Three water development crews carried out an extensive construction and maintenance program on domestic and stockwatering facilities. Eighty-eight maintenance jobs were carried out on existing windmills, pump installations and household pressure systems. Twenty-seven shallow wells were drilled, 28 windmills erected, 99 water troughs installed and 11 windmills dismantled and moved to new locations. Privately owned construction equipment excavated 35 new dugouts, developed 10 springs and drilled 5 new wells.

Summary of Pasture Construction Activities - 1960-61 Season

Particulars	Projects Completed in 1960	Repair work Completed in 1960	Total to March 31, 1961
Fencing (miles)	202	37	4,708
Corrals, No. of	1	5	163
Pasture Managers' Dwellings, No. of	2	1	60
Riders' Cabins, No. of	0	1 (2 dsmltd.)	35
Barns, No. of	2	1	61
Garages, No. of	2	-	61
Bull Sheds, No. of	4	6	58
Other (granaries, oil sheds, chicken coops, pump houses, etc)	10	3	180

Water Development

Windmills, No. of	28	6	431
Wells, No. of	34	61	384
Springs, No. of	11	5	194
Dams, No. of	7	9	278
Dugouts, No. of	68	8	715

Total number of acres enclosed as at March 31, 1960 1,886,364

Total number of acres enclosed 1960 construction season 47,470

Total number of acres enclosed as at March 31, 1961 1,933,834

Pasture Improvement

Pasture improvement work during the year was concentrated on the development of areas for flood irrigation, stockwatering construction, grazing surveys, land clearing, brush control operations, and surveys for future development.

Extremely dry weather and below-normal runoff conditions reduced grass production in some areas of spring flood irrigation projects. Projects which could be flooded or irrigated showed excellent germination and good grass production. Such projects included the Bitter Lake Pump-Gravity scheme, the Dry Lake project in Val Marie #2 Pasture, the Dixon Slough project in the Battle Creek Pasture, the Masefield Flood Scheme and all flood schemes in the Beaver Hills Pasture.



Bush clearing operations in Archie Community Pasture using ball and chain method.

Ref. No. 21915-1

A start was made this year in the development of an additional 2,000 acres of pasture for spring flood irrigation. Stockwatering construction recommended, included 8 dams, 15 dugouts and the development of 3 springs. Repairs were made to eroded spillways on 9 dams by the installation of closed conduit spillways. Regrassing was completed on 275 acres and cultivation for regrassing operations was completed on flood irrigation projects covering 2,100 acres. Land clearing by the ball and chain method was completed on 1,500 acres. Spraying with herbicides to control willow and aspen regrowth on cleared pasture land was completed on 4,000 acres.

Range management studies covering extensive grass surveys and surveys for stockwatering requirements and irrigation were conducted in the open plains region during the year.

REHABILITATION and RESETTLEMENT

The Prairie Farm Rehabilitation Act also provides for the rehabilitation and resettlement of farmers from areas of the prairies where drouth conditions have rendered farming hazardous. Where it has been possible to achieve such rehabilitation without moving farmers, this has been done. In other instances, it has been necessary to physically move farmers from certain areas and to rehabilitate them on land in better dry-land farming areas or on irrigation projects specifically developed for the purpose.

Following is an account of activities centering around the development and operation of irrigation projects in southwestern Saskatchewan and Alberta, built and operated by P. F. R. A. especially for rehabilitation and resettlement purposes.

Eastend Irrigation Project

This project is located in the Frenchman River Valley and extends for 15 miles southeast of the town of Eastend, Saskatchewan. Irrigation water is supplied from the Eastend Reservoir and in dry periods this storage is supplemented from the Cypress storage reservoir in the Cypress Hills.

The project has a potential irrigable area of approximately 3,300 acres of which 2,740 acres were operated by 50 plot holders in 1960, with 2,640 acres being used to produce forage crops, 70 acres in coarse grain, and 30 acres in summerfallow. Feed production amounted to 3,900 tons, sufficient to meet the requirements of 4,000 cattle and 2,000 sheep owned by the plot holders. There are now 1,560 more acres in forage and 2,500 more cattle than there were in 1953.

Precipitation during the growing season amounted to 4.0 inches or less than 50 per cent of normal. To supplement this the farmers on the project irrigated 995 acres once and 1,715 acres twice. During 1960 the total quantity of water discharged from the reservoir was 6,050 acre feet. Due to the low rainfall it was necessary to draw from Cypress Reservoir to complete the irrigation season.

During the 1960 season, P. F. R. A. reseeded 100 acres of forage on the new area known as the Uglum Extension because soil drifting had damaged the forage seeded in 1959.

As part of the project improvement, three miles of deep surface drains were rebuilt and a 600-foot section of the main canal was lined with a plastic liner. This will eliminate seepage entirely and stabilize this section of the canal which had been sliding into the Frenchman River, when the banks became saturated. Adjacent to this canal, the river was moved over 100 feet

to protect the canal banks from erosion. P. F. R. A. also assisted farmers to level 60 acres of land.

Consul Irrigation Project

This project is located in the Consul and Nashlyn district, an area with the lowest annual precipitation in Saskatchewan. Farmers who settled in this region found they could not make a living from straight grain farming and eventually had to relinquish their holdings or branch out into livestock production. The region is ideally suited for raising cattle when a reliable source of feed is established. This creates a constant demand for irrigated land in the Consul district.

The Consul projects contain 3,635 acres of land that can be irrigated. Of this, 620 acres in 1960 were still under development. The remaining 3,015 acres were operated by 55 plot holders. Precipitation during the growing season was 4.4 inches as compared with 8 to 10 inches in a normal year. During the season, 2,530 acres of land were irrigated twice and 385 acres received one irrigation. Water is obtained from the Cypress Storage Reservoir. A total of 6,200 acre feet of water were released to the farmers during the irrigation season. Forage production amounted to 5,380 tons, averaging 2.2 tons per acre. This was sufficient to supplement the winter feed requirements of 4,700 cattle and 2,000 sheep. Since 1952 there has been an increase of about 3,500 cattle owned by farmers and ranchers making use of the irrigated land in this area.

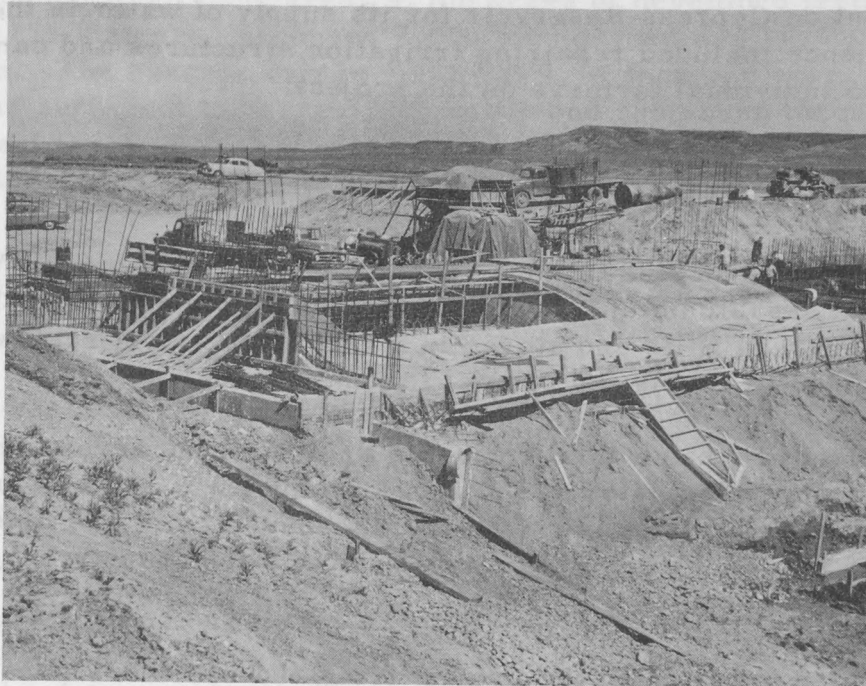
On the Richardson-McKinnon section of the Consul project at Nashlyn, 620 acres are under development. This land should be available to the farmers in 1963.

A new reservoir located southwest of Govenlock, Sask., was constructed on Lodge Creek in 1960. It was named 'Altawan Reservoir' and it will supply the Spangler project and a number of flood schemes operated by P. F. R. A. in adjacent community pastures. This reservoir has a capacity of 5,830 acre feet.

P. F. R. A. crews and equipment were kept busy during the year, cleaning and repairing ditches and canals, controlling weeds, repairing irrigation structures and distributing water to individual irrigators.

West Val Marie Irrigation Project

This project is located in the Frenchman River valley 15 miles northwest of the village of Val Marie. Irrigation water is obtained from the West Val Marie dam which does not have sufficient capacity to supply the project, consequently Cypress Storage Reservoir supplements the water requirements of this area via the Frenchman River.



Construction goes forward on the crest section of spillway for dam on the West Val Marie Irrigation Project.

Ref. No. 18242-2

The project contains approximately 3,500 acres of potentially irrigable land. In 1960, fifty-one farmers operated 2,730 acres of irrigable land, producing 3,650 tons of feed and some coarse grain. The total acreage now in forage amounts to 2,240 acres from which hay was cut. The average yield was 1.5 tons per acre.

During the season farmers irrigated 160 acres three times, 1,300 acres twice, 950 acres once and 120 acres under development were partially irrigated. Precipitation during the growing season was 3.24 inches, 5 to 7 inches less than the long-term average.

The West Val Marie project produced enough hay for 4,000 cattle owned by the plot holders. In addition to the feed produced, 1,200 cattle are being fed and winter grazed on the project.

Considerable development and maintenance work was carried out in 1960. The old spillway at the reservoir was demolished and a new compacted earth fill and concrete spillway was constructed in its place. The main dam was raised four feet and new riprap placed. The completion of this work has

doubled the capacity of the West Val Marie Reservoir and this project will not be so dependant on Cypress Reservoir for its supply of water in the future. Other maintenance included repairing irrigation structures and canals supplying water to individual farmers on the project.

Val Marie Irrigation Project

This project is located in the Frenchman River Valley near Val Marie in southwestern Saskatchewan. Water is obtained from runoff on the southern slopes of the Cypress Hills and stored in a 12,000 acre foot reservoir. This is sufficient water to supply the project for one season.

The project now has a total irrigable area of 4,680 acres. In 1960, seventy-five farmers irrigated 4,320 acres producing 6,300 tons of forage and 600 tons of green oats. The average yield increased from 1.4 tons per acre in 1959 to 1.75 tons in 1960. There was sufficient feed to carry 6,500 cattle owned by the plot operators.

During 1960 farmers on the project irrigated 645 acres once, 3,100 acres twice, and 575 acres three times. Approximately 6,600 acre feet of water were discharged from the reservoir during the irrigation season and only 3.2 inches of precipitation were recorded during that time as compared with the long-term precipitation average for this district, of 8 to 10 inches.

Maintenance work in 1960 included the installation of new check and turnout structures on both the main and lateral canals. Two bridges were installed over lateral ditches and 360 feet of pipe in various sizes were used to replace wood culverts. All the lateral ditches in the north and center blocks were cleaned during the season. As part of the project improvement program, 75 acres were scraper levelled and 120 acres were prepared for leveling in 1961.

Swift Current Irrigation Project

This project is located east of the city of Swift Current. It contains approximately 20,000 acres of irrigable land, of which some 14,500 acres have been, or are undergoing development in the irrigation districts of Swift Current, Waldeck, Herbert and Rush Lake. The first three districts are supplied with water by P. F. R. A., but are operated by private individuals, the Research Station, or the Provincial Conservation and Development Branch. The Rush Lake district, which is divided into two areas, north Rush Lake and south Rush Lake, is operated by P. F. R. A. Water for the whole project is supplied from Duncairn Reservoir southwest of Swift Current and the Highfield Reservoir near Rush Lake.

In the north Rush Lake area, 4,700 acres of developed irrigable land operated by 155 farmers, produced 7,000 tons of feed and 11,600 bushels of coarse grain. The average forage yield was 1.95 tons per acre. The feed produced was sufficient to carry 5,760 cattle and 335 sheep through the winter. To supplement the 7.98 inches of precipitation, the farmers on north Rush Lake irrigated 3,550 acres once and 1,430 acres twice.

The south Rush Lake project contains approximately 1,700 acres of land which are irrigated by spring flood from the main drain. In the spring 1,550 acres were flooded. During the season 51 farmers produced 2,280 tons of feed and 6,000 bushels of coarse grain. This was sufficient feed for 1,825 cattle. Total acreage seeded to forage since 1956 now amounts to 1,400 acres.

Improvement work on the north Rush Lake project in 1960 consisted of seeding 565 acres of land to forage. Drainage was improved by the construction of 10 miles of deep drain ditches and 4 1/2 miles of small field drains. New structures, bridges and culverts were installed to replace structures that had been in use for 15 years. Additional structures were installed and a dyke constructed on south Rush Lake to improve and increase the flooded area.

Maple Creek Irrigation Project

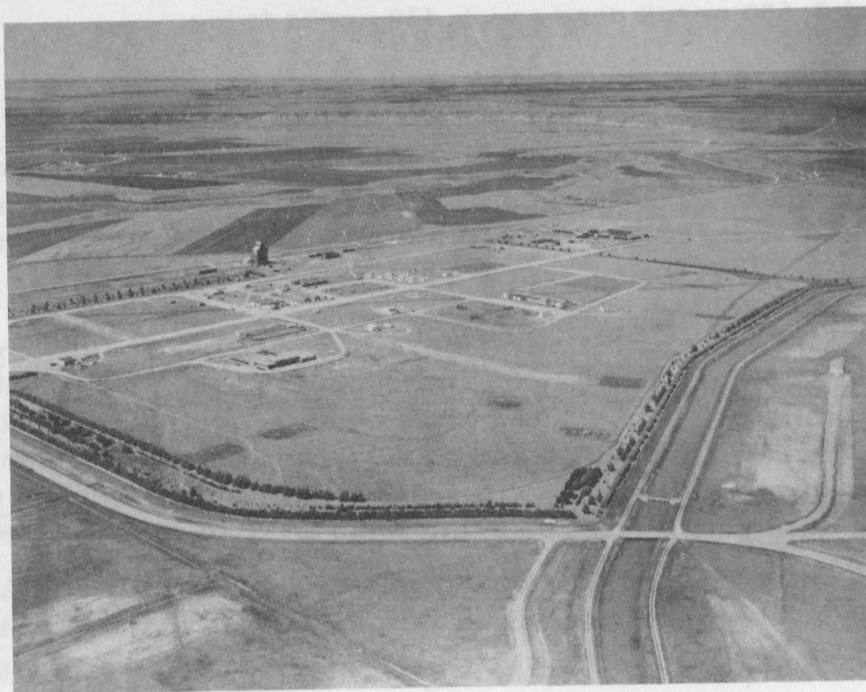
P. F. R. A. has constructed reservoirs in the north slope of the Cypress Watershed with a total storage of 26,000 acre feet of water. This supplies water to irrigate some 10,000 acres of land in the Maple Creek district.

61. The light snow cover in 1960 in the Maple Creek area produced a low spring runoff. There was sufficient water, however, to irrigate 2,520 acres of land once and 3,850 acres twice. Due to the short duration of runoff, some 4,000 acres of privately owned flood land did not receive a proper irrigation. During the year, 140 farmers and ranchers produced 12,500 tons of forage and 16,000 bushels of coarse grain on the project areas. Production on land that was not levelled averaged one ton per acre but increased to over three tons on irrigated land that had been improved by scraper leveling. This production was sufficient for the winter feed requirements for 13,000 cattle and 1,000 sheep owned by the plot holders.

Development on the Maple Creek project has included the scraper leveling of 1,300 acres of irrigable land in the last five years with 300 acres levelled in 1960. This land leveling has improved the efficiency of irrigation, provided better drainage and increased the yields of forage crops.

A program of maintenance was carried out on the project during the season. A small crew employed at Maple Creek operated the deep well

pumps at the Lower 'V' and distributed water to all the individual farmers on the project. Several large checks, drop structures and bridges were replaced using pressure-treated material. One hundred and sixty small turnouts and 40 small check structures were also constructed.



Community of Hays, Alberta with the main irrigation canal at right, and irrigation patterns in background.

Ref. No. 18020

Bow River Resettlement Project

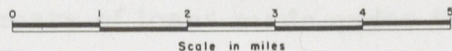
During the current year no land was offered to new settlers. Instead, under a new program to increase the size of holdings, available parcels were developed for irrigation, and allocated to existing farms as extensions to their present holdings on a crop share basis. In addition, farmers in certain instances were moved from original holdings to larger, more suitable acreages of irrigable land. As a result, 53 farmers were allocated additional land in 1960 and further adjustments are under study. At the same time, three of the original settlers left the Hays area.

The policy of the Government of Canada to offer special loans to new settlers in the Hays district for housing, fencing, and the purchase of live-stock, also remained in force during 1960. Under this program individual

BOW RIVER PROJECT

RESETTLEMENT-HAYS IRRIGATION DISTRICT

MARCH 31, 1961



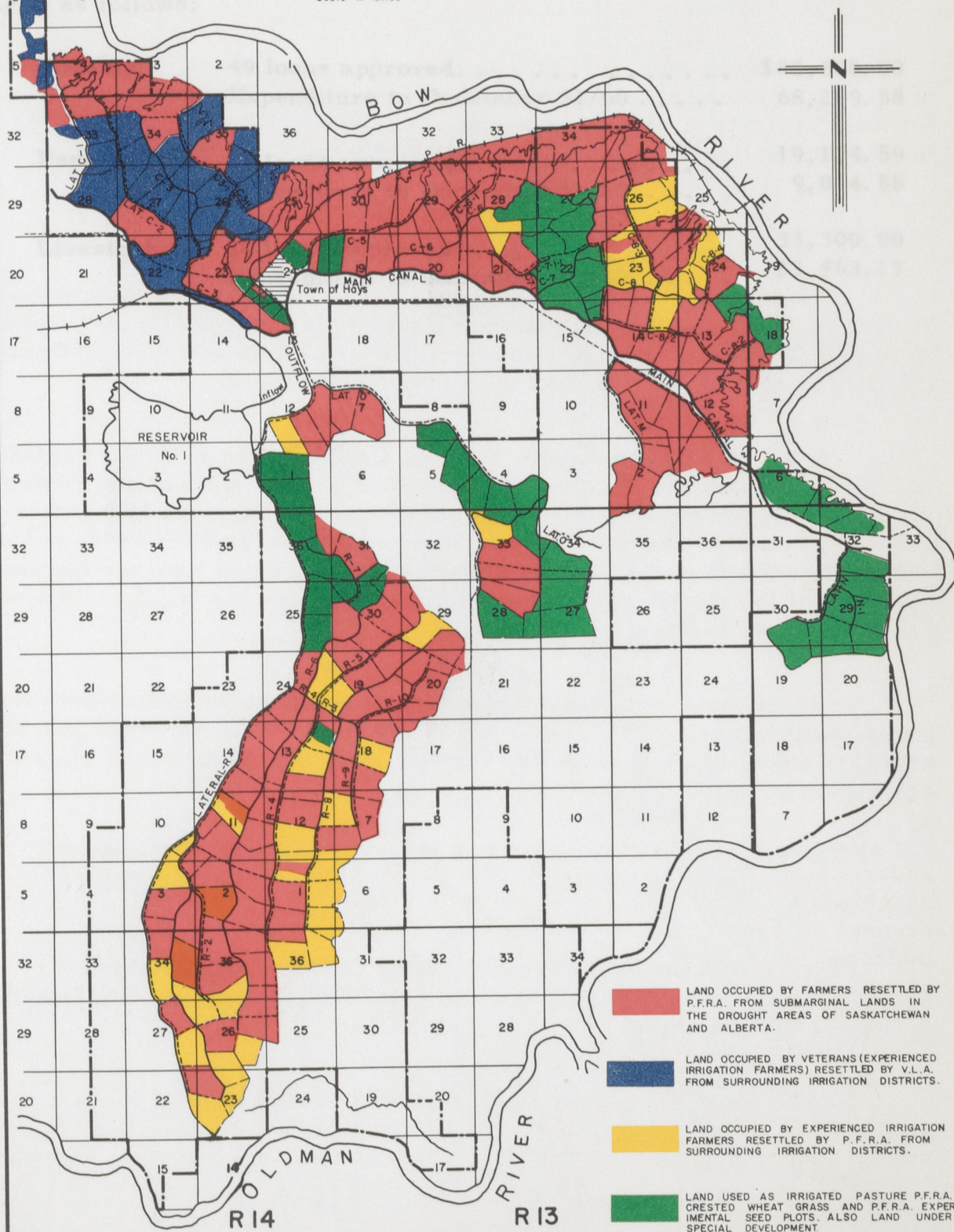
LEGEND

- CANAL
- - - ROAD
- LOT BOUNDARY
- - - DISTRICT BOUNDARY

T 14

T 13

T 12



LAND OCCUPIED BY FARMERS RESETTLED BY P.F.R.A. FROM SUBMARGINAL LANDS IN THE DROUGHT AREAS OF SASKATCHEWAN AND ALBERTA.

LAND OCCUPIED BY VETERANS (EXPERIENCED IRRIGATION FARMERS) RESETTLED BY V.L.A. FROM SURROUNDING IRRIGATION DISTRICTS.

LAND OCCUPIED BY EXPERIENCED IRRIGATION FARMERS RESETTLED BY P.F.R.A. FROM SURROUNDING IRRIGATION DISTRICTS.

LAND USED AS IRRIGATED PASTURE P.F.R.A. CRESTED WHEAT GRASS AND P.F.R.A. EXPERIMENTAL SEED PLOTS, ALSO LAND UNDER SPECIAL DEVELOPMENT.

BOW RIVER PROJECT

LEGEND

RESSETTLEMENT-HAYS IRRIGATION DISTRICT

DISTRICT BOUNDARY

SCALE IN KILOMETERS



loans of \$2,000 for material to construct dwellings, \$1,000 to assist in the purchase of breeding stock, and \$750.00 for fencing material, were made available to assist in the speedy re-establishment and rehabilitation of new settlers. A summary of loans made under this program to the end of the year is as follows:

Housing:	49 loans approved.	\$88,500.00
	Expenditure to December 31/60	68,209.58
Fencing:	36 loans approved.	19,174.59
	Expenditure to December 31/60.	9,014.88
Livestock:	34 loans approved.	33,300.00
	Expenditure to December 31/60.	23,563.17

\$25,860,000.00
18,814,000.00

Government of Canada (P. F. R. A.)
Government of Alberta

Included in the above expenditure by Canada is approximately \$2,500,000.00 on engineering and supervision of the provincially financed portion of the project.

MAJOR IRRIGATION and RECLAMATION PROJECTS

Increasing attention has been given in recent years, to the construction of large-scale irrigation and reclamation projects. Financial provision for such projects is not included under regular P. F. R. A. appropriation and must be authorized by special vote of Parliament.

St. Mary Irrigation Project

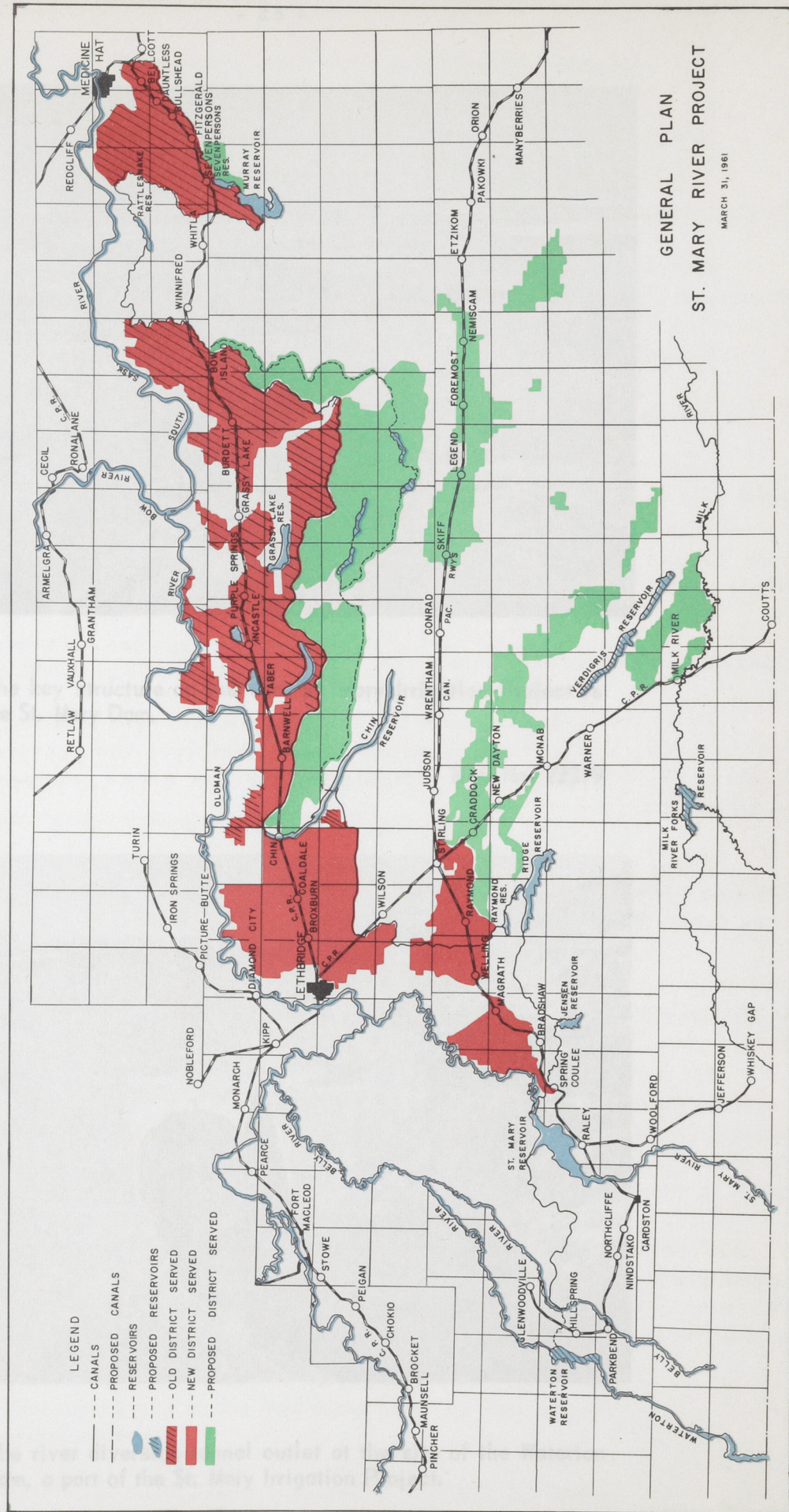
Plans for the St. Mary Irrigation Project call for the diversion of the St. Mary, the Belly and the Waterton rivers to irrigate nearly 500,000 acres in southern Alberta. It is a joint effort between the Government of Canada, the Government of Alberta, and the farmers in the area.

Under an agreement with Alberta, Canada carries out the engineering and supervision of construction for the entire project and assume continuous responsibility for the operation and maintenance of the main reservoirs and connecting canals, charging the province for this service. Canada is also responsible for financing the main works, while Alberta finances the construction of the distributary system, collecting from the farmers an amount equal to ten dollars per irrigable acre.

All the main works are in operation except the Waterton Diversion, now under construction. Distribution works are in operation to serve 304,000 acres. Capital funds expended by the two governments to March 31, 1961 are approximately:

Government of Canada (P. F. R. A.)	\$22,860,000. 00
Government of Alberta	18,814,000. 00

Included in the above expenditure by Canada is approximately \$2,200,000. 00 on engineering and supervision of the provincially financed portion of the project.



MAJOR DAMS
TERRACE RIVER TRAM

PROJECTS

to the construction of large scale projects for the essential provision of such projects as the construction of A. appropriation and

the diversion of the water nearly 500,000 acres of land. The Government of Canada, the Government of Alberta and the farmers are

the engineering and construction of the project and assume continuous responsibility for the maintenance of the water reservoirs and the project. Canada is also responsible for the construction of the project. The Alberta farmers finance the construction of the project from the farmers an amount

the Water Division, now under construction, is expected to serve 304,000 acres. Canada has provided financial assistance to March 31, 1951

Canada (P.E.R.)	\$22,860,000.00
Alberta (P.E.R.)	\$18,514,000.00

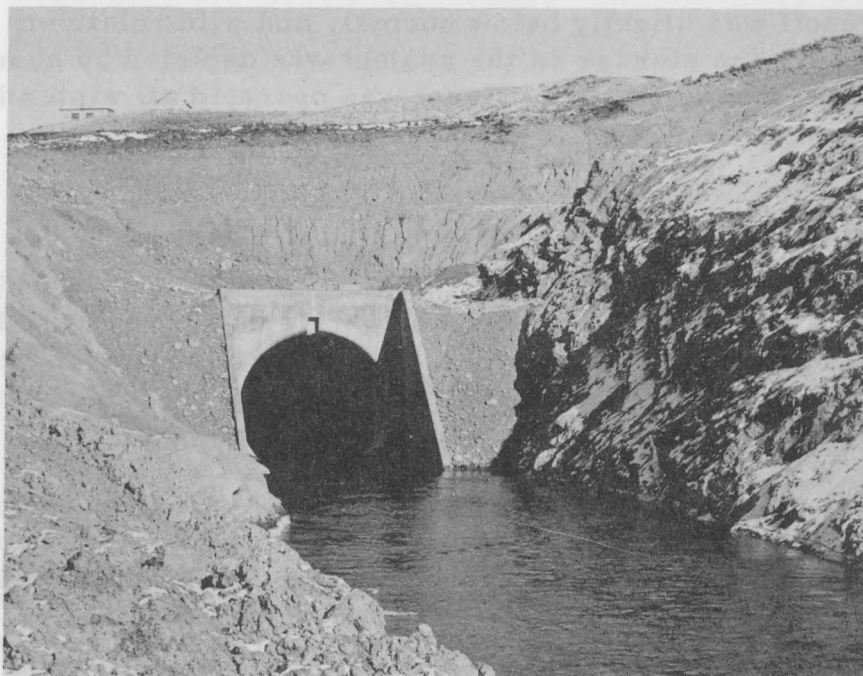
Canada is approximately \$2,200,000,000 and is expected to be the provincially financed





The key structure on the vast St. Mary Irrigation Project is the St. Mary Dam.

Ref. No. 22379



The river diversion tunnel outlet at the site of the Waterton Dam, a part of the St. Mary Irrigation Project.

Ref. No. 21944

Engineering Activities

Surveys, investigation and planning work continued in connection with proposed distribution systems remaining to be built. The construction of the Diversion Tunnel at the Waterton Dam was completed during the year, and a start made on the earthwork contract which was awarded in November.

Project Improvement

This involves minor capital expenditures on works in operation. In 1960 this work was confined to seepage control ditches along the main canal, as well as improvements to the access walk-way in the St. Mary Dam Diversion Tunnel. A permanent fireproof machine shop was constructed at the St. Mary maintenance camp.

Operation and Maintenance

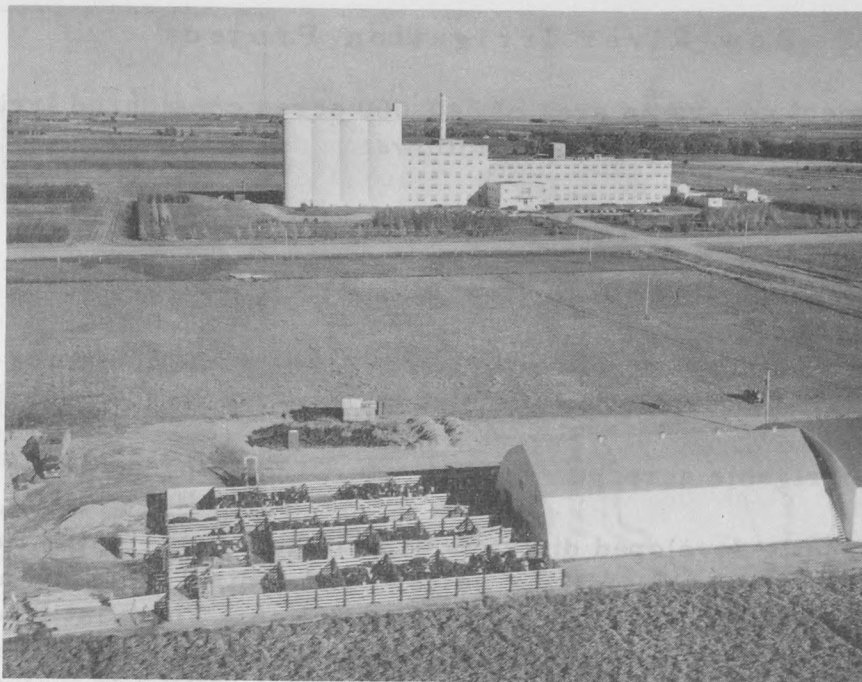
Delivery of water from the St. Mary Reservoir totalled 355,000 acre feet in 1960, an increase of about 45 per cent over the previous year. Approximately 75,000 acres were irrigated in the new areas, representing an increase of 39 per cent over 1959.

River runoff was slightly below normal, and with relatively high demand for water, the storage on the project was depleted by about 140,000 acre feet. Consequently the Belly Canal was operated all winter in 1960-61.

Agricultural Development

Specialized crop production was up 10 to 15 per cent over 1959 in the Lethbridge area. Sugar beet acreage was up over 18 per cent and a new beet receiving station was opened at Burdett. This station received beets grown exclusively in the new irrigated areas, and is indicative of progress being made in development.

Plans were announced in January 1961 for the construction of a million dollar plant to process dehydrated potatoes. The plant will be located somewhere near the center of the St. Mary Irrigation Project, and will have an initial capacity of 25,000 tons per year.



Stockyards and sugar refinery established at Taber on the St. Mary Irrigation Project.

Ref. No. 13946



A fine potato crop on the Bow River Irrigation Project near Vauxhall, Alberta.

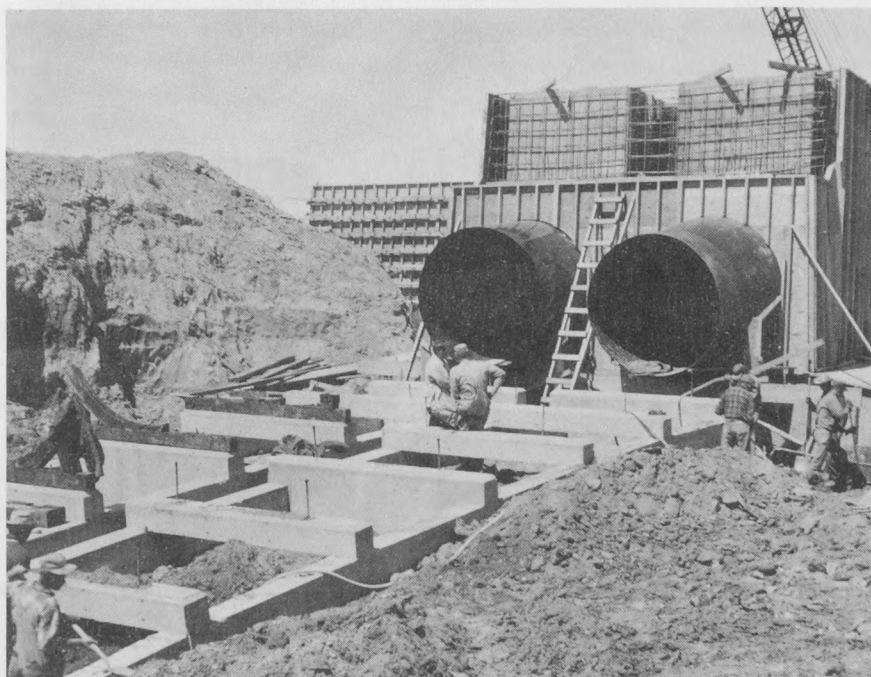
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Bow River Irrigation Project

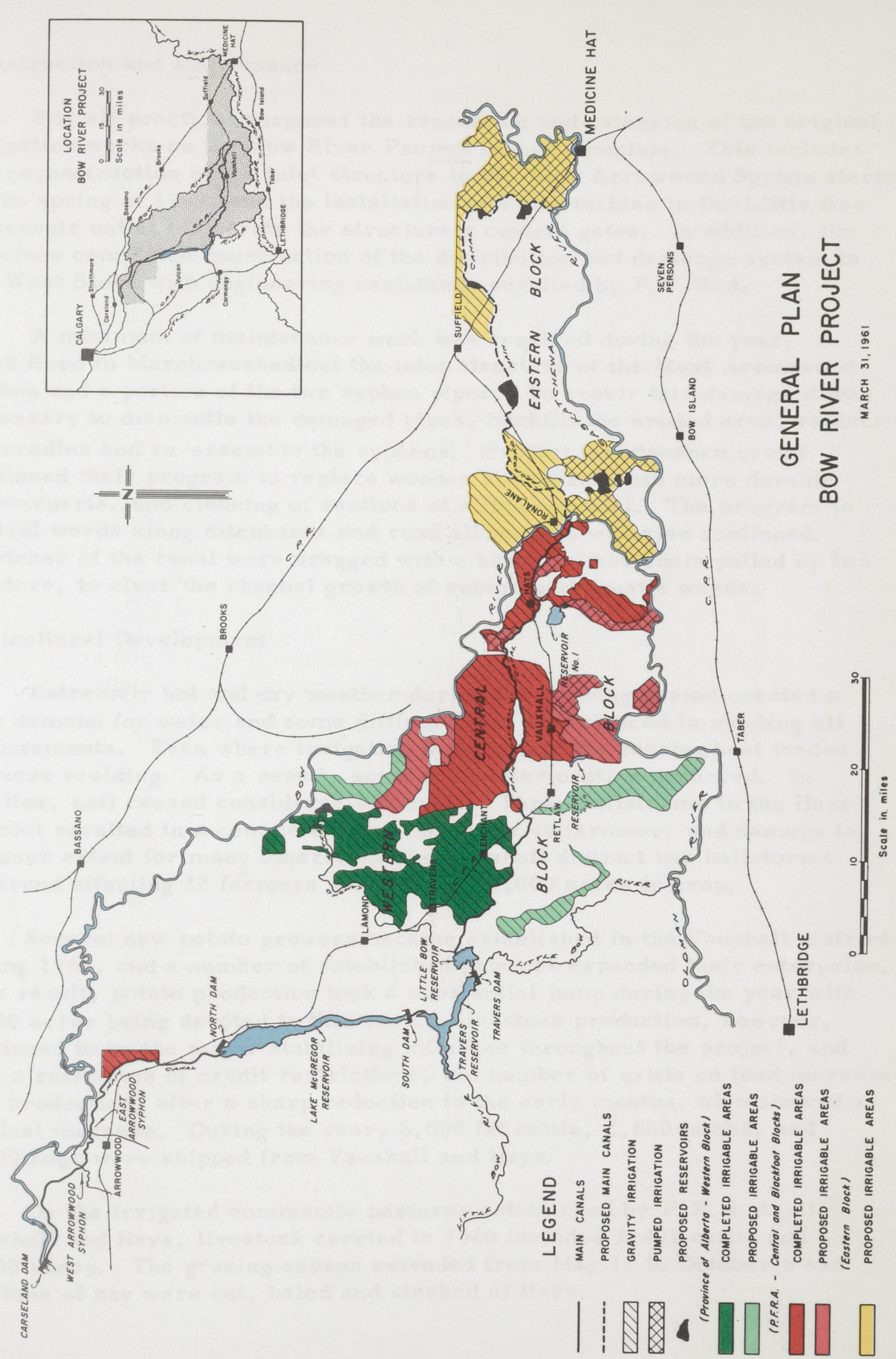
This project covers an area of 240,000 acres considered irrigable. The breakdown of this acreage is as follows:

West Block	25,000 acres
Central Block -	
Vauxhall	63,000 acres
Hays	27,000 acres
East Block	120,100 acres
Blackfoot Indian Irrigation District	<u>4,900 acres</u>
 TOTAL irrigable acreage	 240,000 acres

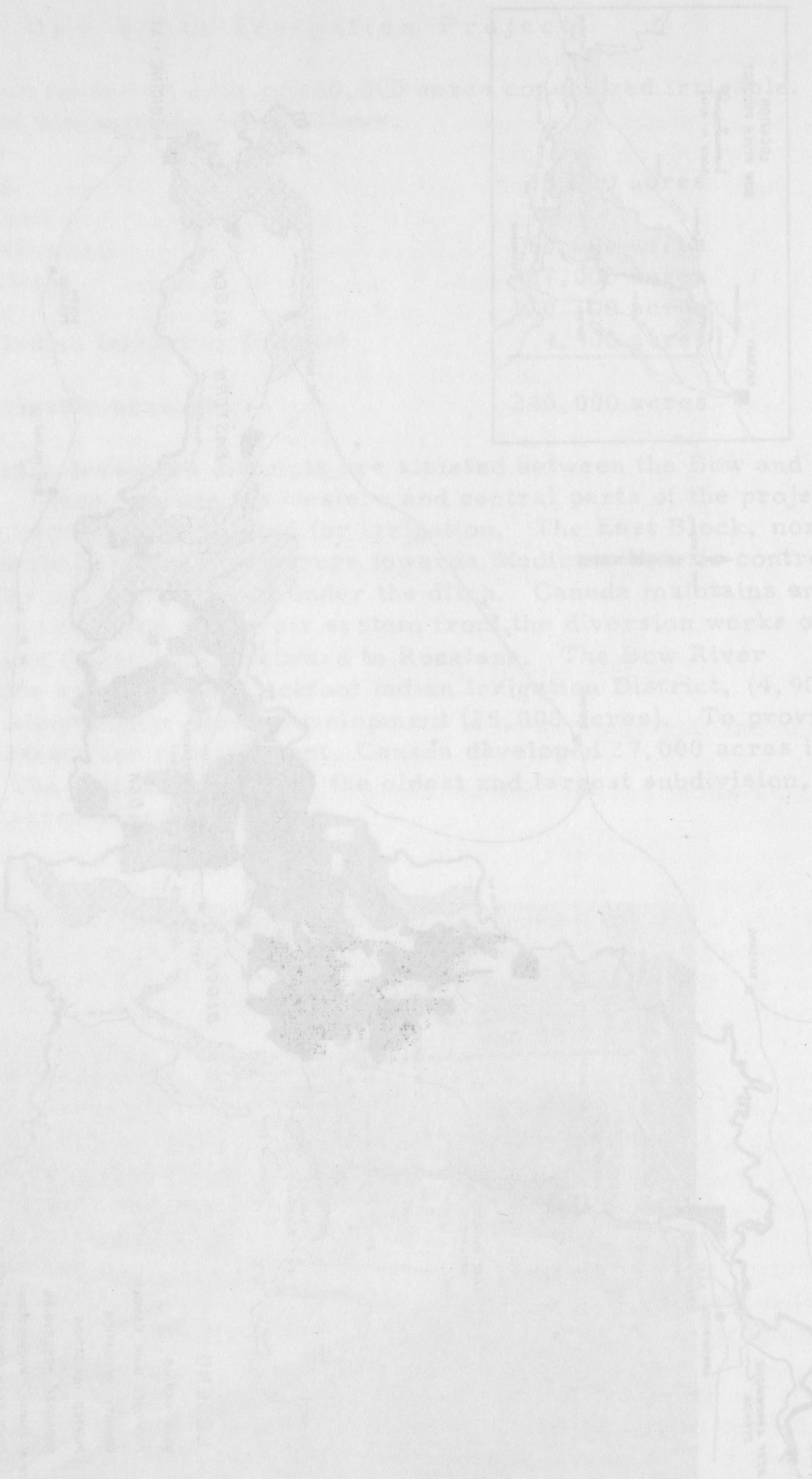
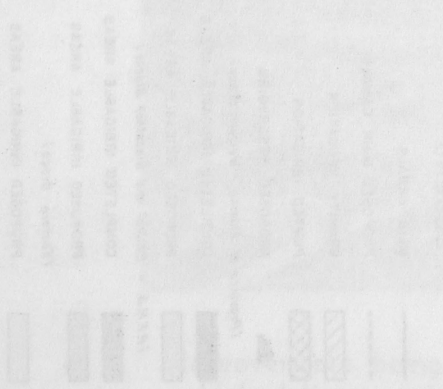
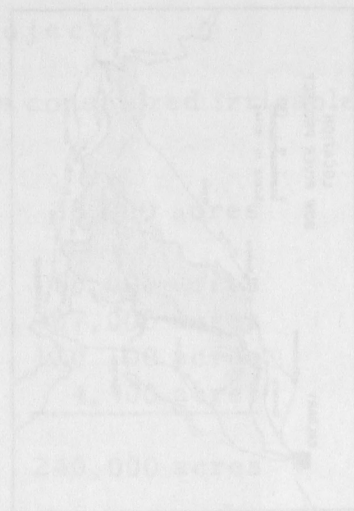
The presently developed districts are situated between the Bow and Oldman Rivers. These include the western and central parts of the project which have been successfully utilized for irrigation. The East Block, north of the Bow and South Saskatchewan rivers towards Medicine Hat, is controlled by Alberta and has not been brought under the ditch. Canada maintains and operates the main canal and reservoir system from the diversion works on the Bow River near Carseland, eastward to Ronalane. The Bow River Project wholesales water to the Blackfoot Indian Irrigation District, (4,900 acres), and the Alberta Bow River Development (25,000 acres). To provide irrigated land suitable for resettlement, Canada developed 27,000 acres in the Hays area. The Vauxhall district, the oldest and largest subdivision, includes 63,000 acres of irrigable land.



Improvements being made to the West Arrowwood Syphon which delivers water to the Bow River Irrigation Project.



BOA RIVER PROJECT
GENERAL PLAN



Water is delivered to the West Arrowwood Siphon which delivers water to the BOA River Irrigation Project.

Construction and Maintenance

For all practical purposes the renovation and extension of the original irrigation works on the Bow River Project is now complete. This includes the reconstruction of the inlet structure to the West Arrowwood Syphon started in the spring of 1960, and the installation of a new turbine in the Little Bow Reservoir outlet to operate the structure's control gates. In addition, the province completed construction of the distribution and drainage system in the West Block with engineering assistance supplied by P. F. R. A.

A minimum of maintenance work was required during the year. A flash flood in March washed out the inlet structure of the West Arrowwood Syphon and a portion of the two syphon pipes. To repair this damage it was necessary to dismantle the damaged pipes, backfill the eroded area, replace the cradles and re-assemble the syphons. Project maintenance crews continued their program to replace wooden structures with more durable counterparts, and cleaning of sections of silted-in canal. The program to control weeds along ditchbanks and road allowances was also continued. Stretches of the canal were dragged with a heavy anchor chain pulled by two tractors, to clear the channel growth of submerged aquatic weeds.

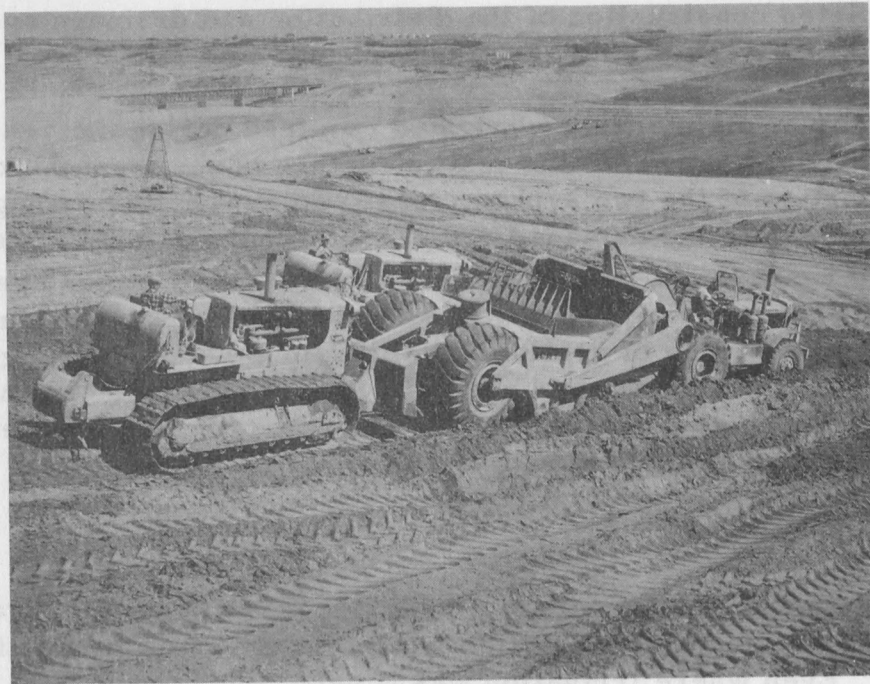
Agricultural Development

Extremely hot and dry weather during the growing period created a high demand for water and some difficulty was experienced in meeting all requirements. Even where irrigation was timely, the searing heat tended to cause scalding. As a result, some crop deterioration occurred. In addition, hail caused considerable damage. Three hailstorms in the Hays district resulted in a complete loss of crop for 40 farmers, and damage to a lesser extent for many others. In the Vauxhall district two hailstorms occurred affecting 22 farmers and damaged 7,000 acres in crop.

Several new potato growers became established in the Vauxhall district during 1960, and a number of established growers expanded their enterprise. As a result, potato production took a substantial jump during the year with 3,000 acres being devoted to this crop. Livestock production, however, continued to be the major stabilizing influence throughout the project, and with a relaxation of credit restrictions, the number of cattle on feed increased. Hog production, after a sharp reduction in the early months, also showed a gradual increase. During the year, 6,000 fat cattle, 2,800 lambs, and 8,100 hogs were shipped from Vauxhall and Hays.

On the irrigated community pastures established by P. F. R. A. at Vauxhall and Hays, livestock carried in 1960 included 1,401 cattle and 2,000 sheep. The grazing season extended from May 12 to October 6 and 434 tons of hay were cut, baled and stacked at Hays.

On these community pastures a program of gradual pasture improvement is being undertaken. On the Vauxhall pasture 160 acres of pasture were broken and levelled for seeding in 1961. At Hays, 400 acres of land under a proposed pumping scheme were surveyed and fenced in preparation for leveling and breaking in 1961.



Heavy machinery employed on one of the embankment contracts at the South Saskatchewan River Dam.

Ref. No. 20526

South Saskatchewan River Project

The South Saskatchewan River Dam is the key structure in the long-range plans for the control of the South Saskatchewan River. The reservoir will provide water for hydroelectric power, irrigation, and recreation, as well as for other agricultural and domestic uses. It will also control the flow of the river, minimizing severe fluctuations and making water available for further power developments downstream.



SOUTH SASKATCHEWAN RIVER DAM

Design and Planning

The preparation of contract plans and specifications, and studies required for other aspects of the project, were continued throughout the year. This work was done by the Engineering Staff of the P. F. R. A.

The preliminary design work on the remaining stages of tunnel construction was also carried on throughout the year, particularly on the control shafts, gates and controls, and the outlet structures. Hydraulic model studies on these latter features were done at the University of Saskatchewan and at St. Anthony Falls Laboratory in Minneapolis, Minnesota, U.S.A.

Studies were continued on the layout and design of the spillway, aided by hydraulic model testing that was also carried out at the two institutions mentioned above.



The mining machine prepares to enter one of the river diversion tunnel portals at the South Sask. River Dam.

Ref. No. 21843

Construction

Up to March 31, 1961, twenty-three contracts totalling 42.5 million dollars had been awarded by P. F. R. A. Fifteen of the contracts were completed by this date. Total construction expenditure amounts to approximately 16 million dollars.

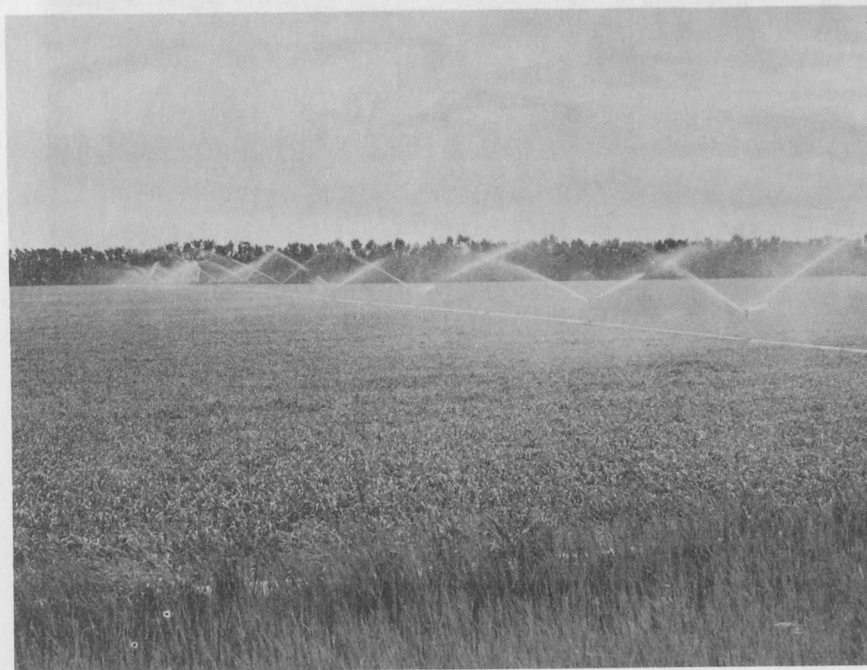
Construction Work Force

Construction employment for the year reached a peak of about 650 men in August and September of 1960. In addition, between 200 and 250 people were steadily employed in the construction headquarters area by P.F.R.A., local businesses, and other operations related to the project. It is expected that the construction work force will exceed 1,000 people during the summer of 1962.

Public Relations

Public interest in both project construction and the operation of the Pre-Development Farm continued at a high level. Thousands of individuals and numerous groups visited the tourist pavilion at Construction Headquarters, and also enjoyed the use of the nearby Provincial picnic grounds.

The tourist pavilion proved to be a feature attraction with its models and displays, coupled with a fine view of construction activities. The pavilion, staffed by three attendants, was open from May through October. In addition, a viewpoint on the west side of the construction area provided visitors with an opportunity to view construction activity in that general area.



Sprinkler irrigation at the Pre-Development Farm being operated in conjunction with the South Sask. River Project.

Visitors to the damsite during the year numbered approximately 82,000. Of these, an estimated 87 per cent were from Saskatchewan, 6 per cent from Manitoba and Alberta, 4 per cent from Ontario and British Columbia, 2 per cent from the United States, and 1 per cent from the remaining Canadian provinces.

Pre-Development Farm

To provide some information in advance of actual irrigation development, the Pre-Development Farm was established near the town of Outlook by P. F. R. A. in 1949. The primary purpose was to try out standard crops and accepted irrigation practices from other areas to determine their suitability in this area. An experimental area was established adjacent to the farm and is operated by the Research Branch of the Department. The work on each unit is closely co-ordinated and the results of ten years' experience on both units are being incorporated into a bulletin for public distribution.

The following table indicates yields of crops in 1960, a five-year average for each crop, and the irrigation water applied during the 1960 season:

<u>Crop</u>	<u>1960 Yield per acre</u>	<u>Five-year av. /acre</u>	<u>Inches of water applied</u>
Wheat	43 bushels	44.4 bushels	12"
Oats	100 bushels	92.0 bushels	9"
Barley	74 bushels	65.6 bushels	9"
Potatoes	6.5 tons	9.0 tons	12"
Hay	3.3 tons	3.4 tons	12"

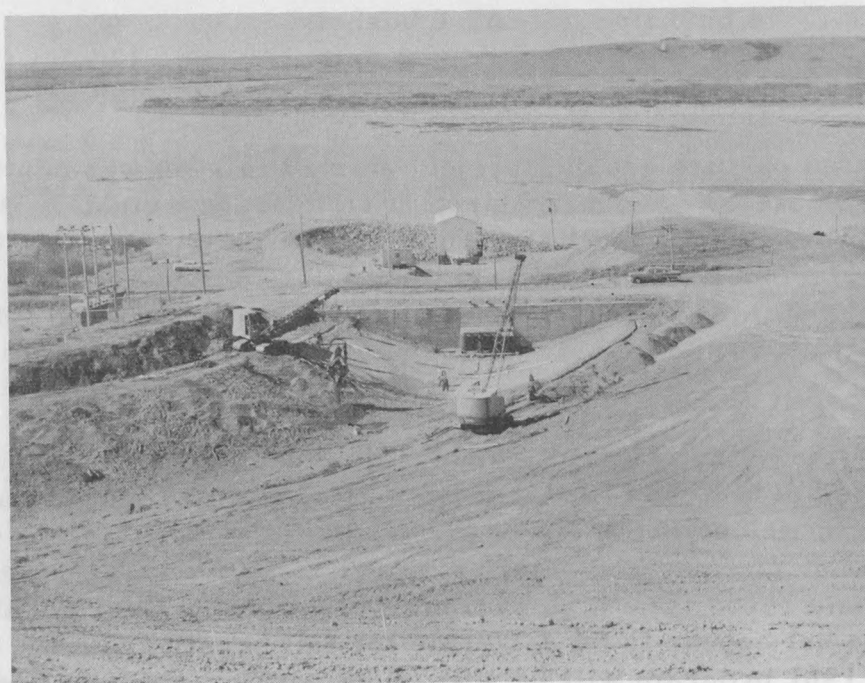
The irrigated pasture grazing project started in 1959 was continued in 1960 with 50 grade steers bought in March at an average weight of about 680 pounds. These were dry fed until May 15, after which irrigated pasture was available until September 15. They were then allowed free access to hay and silage and the grain ration was increased so that top prices were obtained for nearly all the steers when sold between October 25 and November 15.

The whole operation returned a profit after paying for related costs including the value of 43 tons of hay and 32 tons of grain produced on the farm. The gain in weight which is credited to the irrigated pasture was about 580 pounds of beef per acre or an average of 547 pounds per acre for the two years 1959 and 1960. The high average weight of the steers at the time of purchase does not appear to be desirable for full benefit from the summer grazing and the 1961 program will be with more uniform animals averaging about 500 pounds in late March. It is proposed to conduct the 1961 program on a zero grazing basis so as to have some comparison of the methods that might be employed for using irrigated pasture.



Water spreads across a field via the gravity method of irrigation at the Pre-Development Farm.

Ref. No. 19904



Work proceeds on an outlet structure at the site of the Buffalo Pound Lake pumping operation.

Ref. No. 19509-9

Buffalo Pound Lake Water Supply Project

Buffalo Pound Lake is located in the upper reaches of the Qu'Appelle Valley. This body of water has been improved through the construction of dykes and control works to constitute a storage reservoir to serve agricultural uses further down the valley. Recently, however, it has been used as one of the more important sources of urban water supply for the cities of Regina and Moose Jaw. To ensure the availability of water for this purpose, existing supplies have had to be supplemented by pumping water from the South Saskatchewan River over a height of land into the Qu'Appelle Valley at Elbow, thence through canals via the Qu'Appelle River system to Buffalo Pound Lake. Through an agreement with the Province of Saskatchewan, the Government of Canada accepted responsibility for constructing the diversion works required, and continuing responsibility for the operation and maintenance of the diversion facilities until replaced by the South Saskatchewan River Project.



The diversion canal skirting Eyebrow Lake. This is part of the Buffalo Pound Lake pumping project.

Ref. No. 20483

During the summer of 1960, some 6,570 acre feet of water were pumped into Buffalo Pound Lake by P. F. R. A. To reduce excessive evaporation losses in the Eyebrow Lake area of the Qu'Appelle River, a diversion canal was constructed around the north shore of the lake during the spring of 1960. This increased net delivery of water to Buffalo Pound Lake by 18 per cent as

compared with the year previous. Other major works carried out during the year included the raising of the Control Structure on Buffalo Pound Lake, the installation of a third standby pump at Elbow pumphouse No. 1, and trimming of bank slopes around pumphouse No. 1 to stabilize foundation conditions on the hillside next to the river in that general area.

Emma Lake Conservation Project

Construction of a dam and appropriate spillway facilities on Spruce River was undertaken during the year. The purpose is to facilitate pumping of water from Spruce River over a summit into Emma Lake to maintain lake levels. The Department of Northern Affairs and National Resources has an interest in this project. Work on the project began in 1959 and was completed in October 1960.

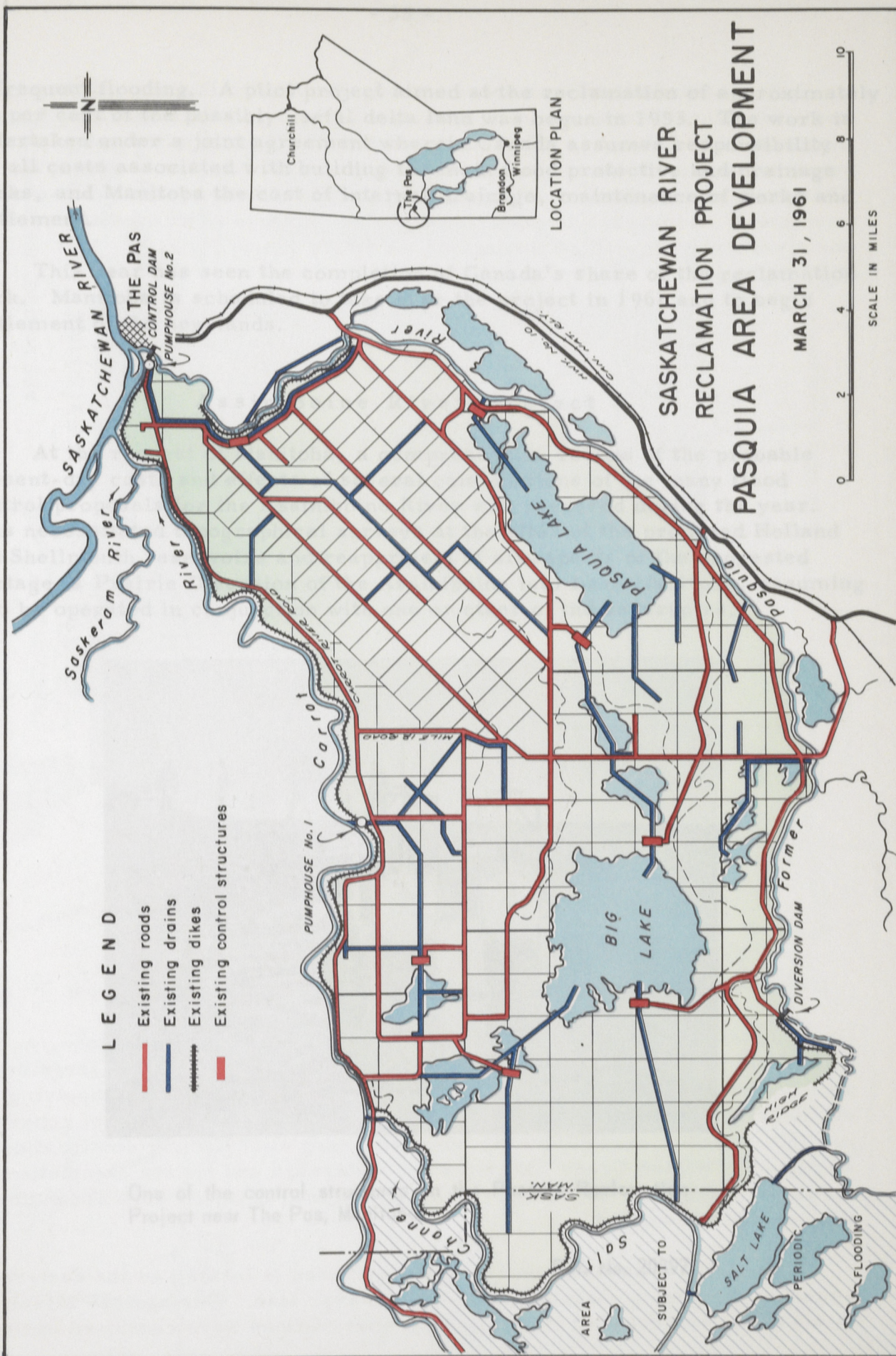


The Saskatchewan River flows past The Pas, Manitoba, with Pasquia Reclamation Project works at lower right.

Ref. No. 20877

Saskatchewan River Reclamation Project

The delta of the Saskatchewan River has a total area of about 3,600 square miles and extends from Tobin Rapids in Saskatchewan, to Cedar Lake in Manitoba. About one-half of this area is potentially arable although subject

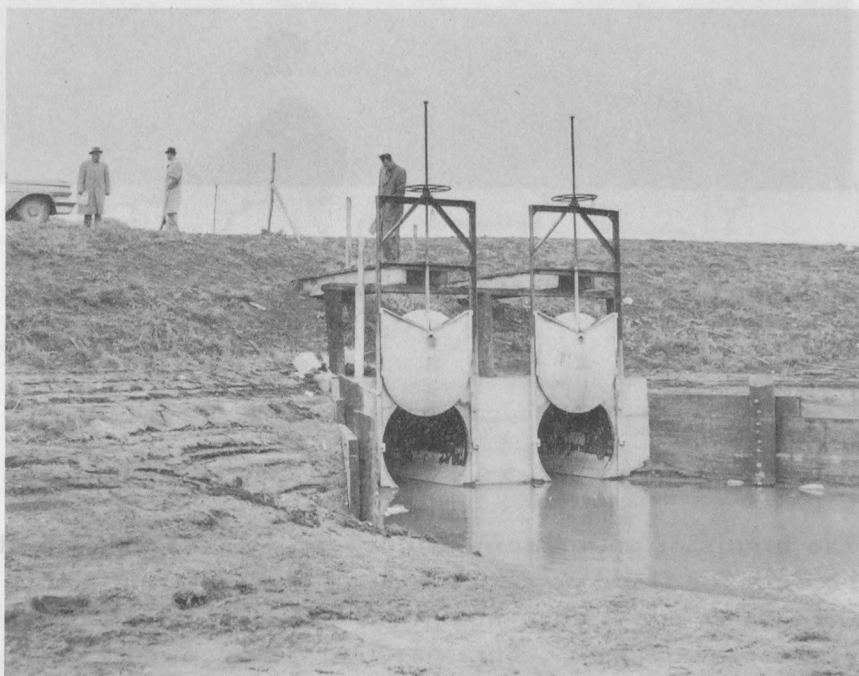


to frequent flooding. A pilot project aimed at the reclamation of approximately ten per cent of the possibly useful delta land was begun in 1953. The work is undertaken under a joint agreement wherein Canada assumes responsibility for all costs associated with building the main flood protective and drainage works, and Manitoba the cost of internal drainage, maintenance of works and settlement.

This year has seen the completion of Canada's share of the reclamation work. Manitoba is scheduled to take over the project in 1961 and to begin settlement of the new lands.

Assiniboine River Project

At the request of Manitoba, a comprehensive review of the probable present-day costs and effects of several combinations of the many flood control proposals for the Assiniboine River was prepared during the year. This necessitated topographical surveys at the sites of the proposed Holland and Shellmouth reservoirs and reappraisal of all aspects of the suggested Portage la Prairie Diversion of the Assiniboine into Lake Manitoba, assuming it to be operated in conjunction with one or other of the reservoirs.



One of the control structures on the Pasquia Reclamation Project near The Pas, Manitoba.

Ref. No. 20897

The Assiniboine River dykes between Portage la Prairie and Winnipeg, were overtopped and damaged in many places by high water resulting from ice jams in mid-April 1960. The period between June and November was required to repair this damage and to build several sections of new dyke. This work was performed under P.F.R.A. direction by rented earth-moving equipment. Additional detailed topographical surveys of this lower reach of the river were carried on throughout the entire year.



A dyke to provide flood protection borders the river on the Assiniboine River Flood Control Project.

Ref. No. 21385

Northwest Escarpment and Interlake Reclamation Projects

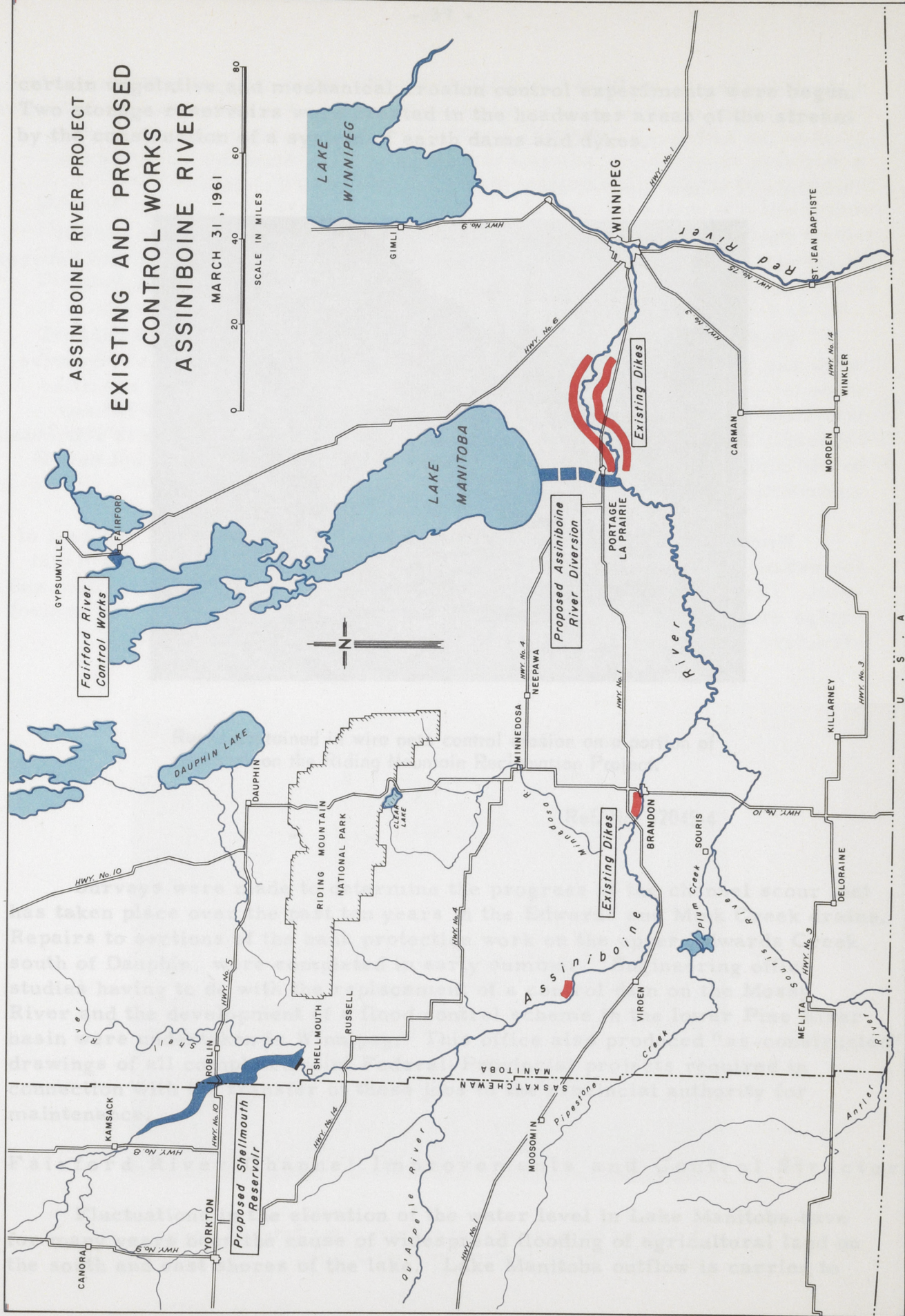
Under the terms of an agreement between Canada and Manitoba, mutually acceptable projects for flood control and land reclamation in this large area, were undertaken on an equal cost-sharing basis with P.F.R.A. supplying all engineering services required. This particular agreement was not renewed in 1960. Certain specific lands, however, were allocated for continuation of work on the Wilson Creek Experimental Watershed and for the completion of the Burnt Lake drain in the Interlake region, both of which were begun under the original agreement.

The Wilson Creek Experimental Watershed is located on the eastern slopes of the Riding Mountain, near McCreary, Man. During 1960 stream flow studies and detailed climatological observations were continued while

ASSINIBOINE RIVER PROJECT EXISTING AND PROPOSED CONTROL WORKS ASSINIBOINE RIVER

MARCH 31, 1961

SCALE IN MILES
0 20 40 60 80



DESIGNING AND CONSTRUCTION
OF THE NEW BRIDGE

THE NEW BRIDGE
WAS DESIGNED
AND CONSTRUCTED
BY THE
FEDERAL GOVERNMENT

1935

1935

1935

1935

1935



DESIGNING AND CONSTRUCTION OF THE NEW BRIDGE

The new bridge was designed and constructed by the Federal Government. It was designed by the Federal Government and constructed by the Federal Government. The new bridge was designed and constructed by the Federal Government. It was designed by the Federal Government and constructed by the Federal Government. The new bridge was designed and constructed by the Federal Government. It was designed by the Federal Government and constructed by the Federal Government.

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certain vegetative and mechanical erosion control experiments were begun. Two storage reservoirs were created in the headwater areas of the stream by the construction of a system of earth dams and dykes.



Rocks contained in wire nets control erosion on a portion of riverbank on the Riding Mountain Reclamation Project.

Ref. No. 52045-4

Surveys were made to determine the progress of the channel scour that has taken place over the past ten years in the Edwards and Mink Creek drains. Repairs to sections of the bank protection work on the upper Edwards Creek, south of Dauphin, were completed in early summer. Engineering office studies having to do with the replacement of a control dam on the Mossy River and the development of a flood control scheme in the lower Pine River basin were undertaken in Winnipeg. This office also produced "as-constructed" drawings of all completed joint Federal-Provincial projects required in connection with the transfer of these jobs to the provincial authority for maintenance.

Fairford River Channel Improvements and Control Structure

Fluctuations in the elevation of the water level in Lake Manitoba have for many years been the cause of widespread flooding of agricultural land on the south and east shores of the lake. Lake Manitoba outflow is carried to

Lake Winnipeg by the Fairford River-Lake St. Martin-Dauphin River system, leaving Lake Manitoba near its northeast corner. Recommended modifications involve the improvement of the channel of the Fairford for approximately 8,000 feet, beginning 1,800 feet off-shore in Lake Manitoba, and the construction of a new control structure on the improved channel.

The Manitoba Department of Public Works produced a cost-benefit study of the proposals and a cost-sharing agreement was entered into between the Federal and Provincial Government with work starting late in 1960.

Two separate contracts, one amounting to \$263,000 for the channel work and the other to \$150,000 for a combined bridge and control structure, were let by the Province. The Federal-Provincial arrangement specifies that Canada will pay one-half the cost of the work covered by the former contract, and one-half the cost of that portion of the latter which is attributable to the control works only. An upper limit of \$300,000 has been set on the contribution of the federal authority.

Work on the channel began in November 1960, and over 60 per cent of the estimated quantity of excavation was moved before the end of the fiscal year. The construction of the substructure of the combined control dam and bridge was started in early December 1960. The foundations for the control structure were successfully completed by March 31, 1961.



A dragline helps construct a spillway at the Antelope Coulee Cutoff Serving the Eastern Irrigation District.

Antelope Coulee Cutoff

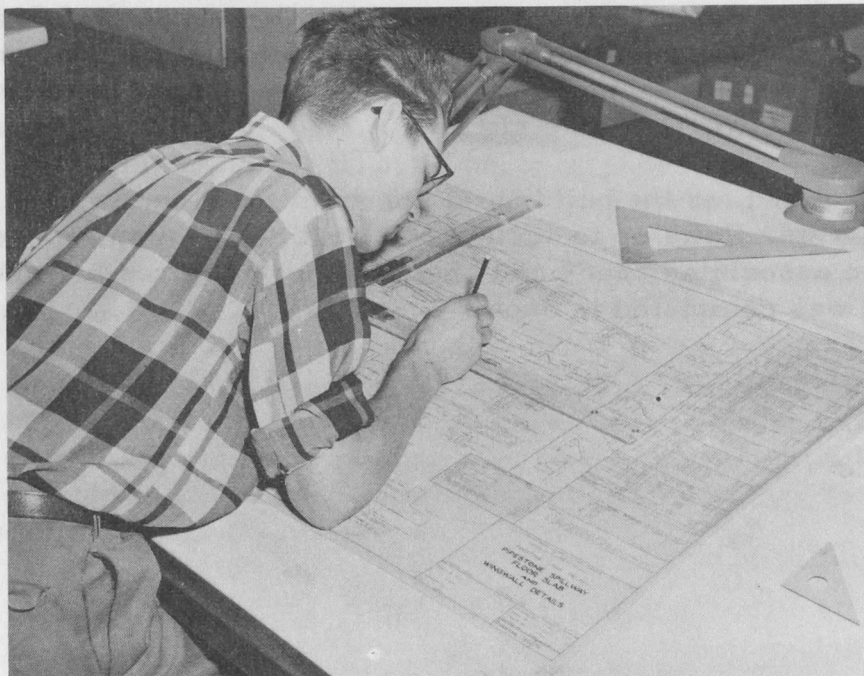
(Eastern Irrigation District)

The Antelope Coulee Cutoff is a new section of the Eastern Irrigation District main canal designed by P. F. R. A. to take the place of a badly deteriorated existing wood-stave and concrete syphon crossing Antelope Coulee. The work was undertaken under an agreement between the Eastern Irrigation District, the Government of Alberta, and the Government of Canada. Cost of construction was borne on a one-third share basis between each of the parties involved, with engineering and supervision services supplied by P. F. R. A. as part of Canada's share.

Plans called for the building of approximately one mile of canal capable of carrying water flows up to 1,200 cubic feet per second, as well as installation of three associated check and check-drop structures. Work commenced in 1959 and was completed in September 1960.

ENGINEERING SERVICES

To provide the basic information required for the sound planning and construction of engineering projects undertaken by P. F. R. A. , a number of special divisions have been set up within the Organization under the general heading of Engineering Services.



A draftsman works on one of the thousands of plans prepared within the P.F.R.A. Engineering Services.

Ref. No. 2816

Design Division

During the 1960-61 fiscal year, the South Saskatchewan River project again represented the major item of work for the Design Division. Work undertaken is set out in the section of this report dealing with the South Saskatchewan River Project.

In addition, plans and specifications were prepared for three projects on which contracts were subsequently let. These included revision to Parr Reservoir and the Morris River stockwatering dams, and the Antelope Coulee Cutoff - Stage 2. Complete plans were also prepared for six projects constructed by P. F. R. A. forces. These were the Altawan Project (Spangler Diversion Weir), the Bow River Project (inlet to West Arrowwood Syphon),

the Buffalo Pound Lake Project (revisions to Control Structure No.2), the Oxbow Project (new timber weir) the West Val Marie Project (new riparian outlet) and the Cabri Dam (new spillway). Plans and specifications were also prepared on two additional projects, the Cleland and Oungre dams, for which tenders will likely be called early in 1961. Extensive study was given to the following proposed projects - Antler Creek (Carnduff Dam), Berry Creek Project (renovations and additions), Esterhazy Dam, LaSalle River Project (three dams at LaSalle, Starbuck and Elie) and Sarnia Project. General studies were also undertaken on spillway and outlet works for small dams on the prairies.

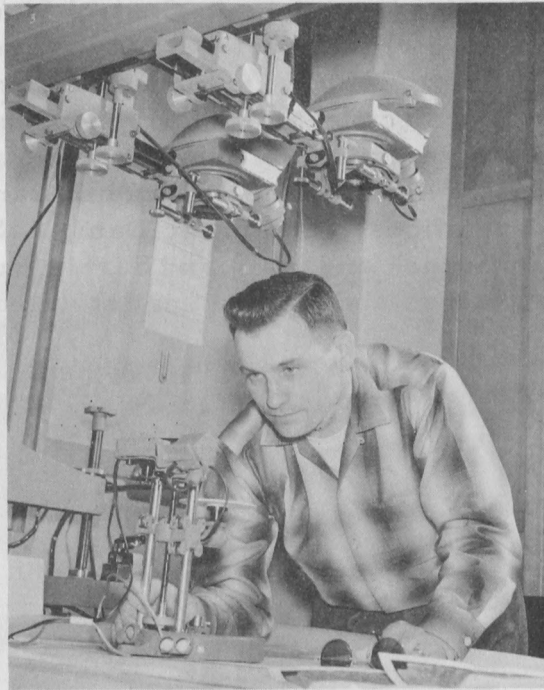


Water used for testing scale models of future structures flows down a mock spillway in the Hydraulics laboratory.

Ref. No. 22222

Drafting Section

The Section produced nearly 900 finished drawings during the year, an increase over last year of 38 per cent. Other work undertaken included computing earthwork quantities, checking certain engineering calculations, assembling engineering reports and constructing experimental design models.



Adjusting a Balplex machine used in the Air Photo Analysis and Engineering Geology Division of P.F.R.A.

Ref. No. 17392

Air Photo Analysis and Engineering Geology Division

During 1960-61, air photo reconnaissance studies were carried out for purposes of selecting damsites on Gainsborough Creek, Arm River, MacKay Creek, Avonlea Creek, Tobacco Creek, Wood River and Mossy River.

Preliminary air photo studies were made for the proposed Stuartburn, Foam Lake and Kelvington Community Pastures. Suggestions were made to assist in future development and management of the areas.

A land-use study was completed for the Serpentine Nicomekl River watershed. The watershed is located in southwestern British Columbia, and contains over 71,000 acres. Air photos were studied, and the land use tabulated to show the changes that have occurred from 1930 to 1958.

Two riprap studies were completed, one for the east end of Buffalo Pound Lake, and the other for the South Saskatchewan River Dam. Each study involved a preliminary office air photo reconnaissance study and a follow-up field investigation. Air photo searches for sand and gravel were confined to the Hanna district of Alberta, where over 200 deposits were mapped.

Two field engineering geology studies were also conducted in the Assiniboine valley during the year, one on the Holland Damsite, the other on the Shellmouth Damsite. A preliminary field investigation of the Gap Damsite on the Oldman River in Alberta was also carried out.

During the year photographs of the West Val Marie Reservoir were acquired at two scales, 1 inch equals 300 feet and 1 inch equals 500 feet. Photographs of the South Saskatchewan River dams site are being taken at monthly intervals through to December 1961, at scales of 1 inch equals 800 feet, and 1 inch equals 1,800 feet. These are being used to record construction progress.

New aerial photographs were also received through the Interdepartmental Committee on Air Surveys for the entire Qu'Appelle Valley, and for the Assiniboine Valley from Virden, Man., upstream to Sturgis, Sask. This photography was flown at a scale of 1 inch equals 2,640 feet, and will be used for engineering geology studies and for topographic mapping of potential damsites.

Progress continues in regard to photogrammetric plottings of topographic plans for the reservoir area of the South Saskatchewan River project, with 254 half-section sheets having been completed during the year to give complete coverage from the site area upstream to the Herbert Ferry.

Twenty-foot contours were mapped by photogrammetric means for a stretch of the Assiniboine Valley in the vicinity of Shellmouth, Man., to be used in future geological investigations and preliminary design of the proposed Shellmouth dam. Photogrammetric plotting was also completed on the West Val Marie reservoir, and on Sites 27 and 173 of the Upper Whitesand river.

The West Val Marie reservoir was plotted to 2-foot contours at a scale of 1 inch equals 150 feet, for use in reservoir capacity studies. The Upper Whitesand Sites were mapped to 10-foot contours at a scale of 1 inch equals 400 feet. These plans were used in reservoir capacity studies and for preliminary design.

Soil Mechanics and Materials Division

A basic function of the Division is the field exploration of structure sites. Working with six power drills and some hand operated equipment, members of the drilling staff recovered 20,000 samples at 32 sites on 28 different projects in Manitoba, Saskatchewan and Alberta. Fifty-two thousand lineal feet of test holes were drilled, about one half of which were on the South Saskatchewan River Project. In addition to the routine testing of materials, a separate investigation was continued in 1960-61 to evaluate concrete materials for the South Saskatchewan River Dam. Five hundred concrete and mortar mixes were performed with a variety of cement, pozzolan and aggregate combinations. Eight thousand cylinders and beams were cast for the study of sulphate resistance, compressive strength and alkali aggregate reaction.



Obtaining a soil sample for testing at the Soil Mechanics and Materials Division laboratory in Saskatoon.

Ref. No. 22569

The installation and observation of special test apparatus in earth dams and appurtenant structures were also continued. This is being done to detect movements and determine pore pressures in embankments and foundations during and after construction and for measurement of frost heave in spillways and drop structures during the winter. At the South Saskatchewan River Dam a special Lo-Var tape extensometer was built and calibrated. This will be used to observe diameter changes in the tunnel linings to determine the stresses in the structure. During 1960-61 the Division prepared ten soil mechanics and materials reports and twelve reports covering design studies and inspections of structures. Approximately 600 engineering plans were prepared by the drafting staff in the period.

At the request of the Indian Affairs Branch of the Department of Citizenship and Immigration, the Sipanok Fur project in northern Saskatchewan was inspected and a report giving observations and recommendations on the project was prepared. The division also co-operated with the Department of National Defence in discussion of the stability of trenches under bombing attack and made arrangements to assist in soil studies on the Greater Winnipeg Floodway project.



The laboratory of the Drainage Division at Vauxhall, Alta. where tests relating to drainage are run.

Ref. No. 3716

Drainage Division

An important aspect of the drainage work has been to determine drainage characteristics of various soils encountered on irrigation projects in western Canada. Application of drainage findings is being made to proposed irrigation projects associated with the South Saskatchewan River project where special land classification investigations have been conducted in co-operation with the Province of Saskatchewan over the past two years. In addition, several large areas in southern Manitoba were investigated relative to suitability for irrigation development.

On other irrigated projects, technical assistance has been given with land leveling to improve surface drainage. This work has been associated mainly with irrigation development on the Bow River project in Alberta, although similar services are also made available to others on request.

Pumping tests to reduce high water table and salinity problems in the Upper and Lower 'V' districts of the Maple Creek project were continued during 1960. Approximately 658 acre feet of water were pumped by the two wells on the Upper 'V' and 1,313 acre feet of water by the three wells on the Lower 'V'. Changes in the salinity of the groundwater were significant. Water table levels showed a continued lowering due to pumping. Based on the present utilization of the groundwater and the more efficient operation of pumps, continuation of the pumping program into 1961 would appear warranted.

Also on the Upper 'V' project, a number of soil samples were taken at an old sampling site for more detailed study on soil salinity. Tests indicated that the salt status had decreased at the northern extremity of the project where the land had received heavy applications of water. Plans are being laid to follow salinity changes on newly levelled regrassed areas under irrigation in conjunction with the pumping program.

Other activities of the Drainage Division during the year included sampling and analysis of soils proposed for flood irrigation on Pelican Lake, Archive Community Pasture and Kettlehut Lake, to determine their suitability for development. In addition, tile drainage investigations, irrigation efficiency studies, and groundwater observations were continued on the Bow River Irrigation project during the year.



A floating evaporation pan used in climatological studies conducted by the Hydrology Division of P.F.R.A.

Hydrology Division

During 1960, the water supply was evaluated for 30 proposed reservoirs. This was done by reconstructing stream flow records where necessary, estimating water needs, and studying the adequacy of the proposed project to meet those needs. The reconstruction of stream flow records has been speeded up by current studies being undertaken for the Prairie Provinces Water Board. When completed, these studies will make possible a quick estimate of the available runoff for any stream on the prairies, once the drainage area, annual precipitation, and topographic characteristics are known.

To aid in spillway design, the flood potential for 33 projects was studied in 1960. These studies, based on daily stream flow data, are usually presented in tabular form, for example:

DRY CREEK NEAR HORSTON

<u>The odds in any year are</u>	<u>that a mean daily flood peak will occur exceeding</u>
1 in 10 -	1,000 cubic feet per second
1 in 20 -	1,700 cubic feet per second
1 in 50 -	2,500 cubic feet per second

This work has been speeded up by the completion of the report "The Magnitude and Frequency of Floods in Alberta, Saskatchewan and Manitoba". This report describes a method for estimating the flood potential of any stream once the geographic location and drainage area are known.

Nine special investigations were undertaken in 1960. They ranged from "Hydrology of the Serpentine-Nicomekl Rivers Watershed" - a tidal stream with agricultural flooding problems aggravated by suburbanization - to measurements of the quality and quantity of water pumped from the South Saskatchewan River to Buffalo Pound Lake. A study of Great Rainstorms on the prairies is nearing completion. This study will permit more accurate estimates of the probable maximum flood for spillway design.

CONSTRUCTION, EQUIPMENT and SUPPLY DIVISION

The diversity of P.F.R.A. activities necessitates a number of service facilities. Many of these are provided through this division in the form of equipment, materials, repair facilities, work crews and inspection services. During 1960-61 the demand for services increased substantially. These were provided without increase in staff other than casual and seasonal employees.

The main equipment depot with seven trade shops is located in Moose Jaw. During the year, the shops undertook repair work requiring the expenditure of \$148,150 for parts. This involved 120 different jobs on vehicles, 101 on trailers and 339 on units of mechanical equipment. New manufacture included 85 different jobs totalling \$103,500 and included 19 camp trailers, 200 water troughs, 4 fuel sheds, 16 sets of concrete forms, 115 signs, 25 pieces of laboratory equipment and 27 hardware jobs. This repair and manufacture work is in addition to work done by private businesses.

The field staffs are equipped to undertake jobs not ordinarily done by local contractors. Eighteen field crews undertook 129 jobs having a value of over \$464,000 of which more than 75 per cent was for material and supplies. Jobs included the rebuilding of the Cabri and Oxbow community water storage projects in addition to fireguarding in community pastures, repairing spillways, painting buildings and structures, and servicing electrical and heating equipment.

Purchases of vehicles, machinery, material and repair parts were made to the value of approximately \$500,000, about double that for 1959-60.

To facilitate the movement of equipment to various projects, a variety of truck and trailer combinations travelled some 216,000 miles. The estimated load was over 5,500 tons and necessitated 875 separate trips. This represented an increase of 62 per cent over the previous year, mainly because of the increased amount of field construction and maintenance work undertaken.

Fire prevention and safety programs are encouraged throughout the organization. An experienced supervisor conducts regular inspections of all headquarters and camps and submits appropriate reports. The favorable record of accidents and fire losses justifies this program.

The schedule of rental rates for equipment was revised during the past year and serves as a guide to rental operations throughout this area.

PLANNING and INFORMATION DIVISION

The Planning and Information Division collects and assembles information pertaining to the history and development of P. F. R. A. for use in the preparation of reports, publications and articles. In addition, since 1959 the Division has become increasingly involved in publicity and public relations activities required by the organization, with particular reference to the South Saskatchewan River project.

Information and Publicity Section

By far the largest percentage of work carried by this unit during 1960, was associated with publicity and public relations activities centering around the development of the South Saskatchewan River project. As a direct result of these activities, over 150 news items appeared in local newspapers, farm magazines, commercial publications and construction magazines. Of these, approximately 50 were feature presentations. Fairly continuous TV coverage was obtained through local outlets as well as nationally.

Photo Section

The photographic section of the Division maintains a continuous photographic record of P. F. R. A. activities. During 1960 this resulted in the processing of 1,368 individual requests involving the development of over 6,000 sheets of film, and the production of approximately 46,000 prints. Approximately 8,000 feet of movie film was shot this year, principally black and white film required for the production of TV shorts. In addition to wide acceptance of the film by local TV outlets in the three prairie provinces, over 85 per cent of the film was used on national networks.

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Third in order of importance is the Photo Section, which is responsible for the photographic record of P. F. R. A. activities. During 1960 this resulted in the processing of 1,368 individual requests involving the development of over 6,000 prints and the production of approximately 45,000 prints. Approximately 8,000 feet of movie film was shot this year, principally black and white film required for the production of TV shorts. In addition to wide acceptance of the film by local TV outlets in the three prairie provinces, over 85 per cent of the film was used on national networks.

Fourth in order of importance is the Publications Section, which is responsible for the preparation and distribution of reports, publications and articles.

The Publications Section is responsible for the preparation and distribution of reports, publications and articles. This section is also responsible for the preparation and distribution of reports, publications and articles.

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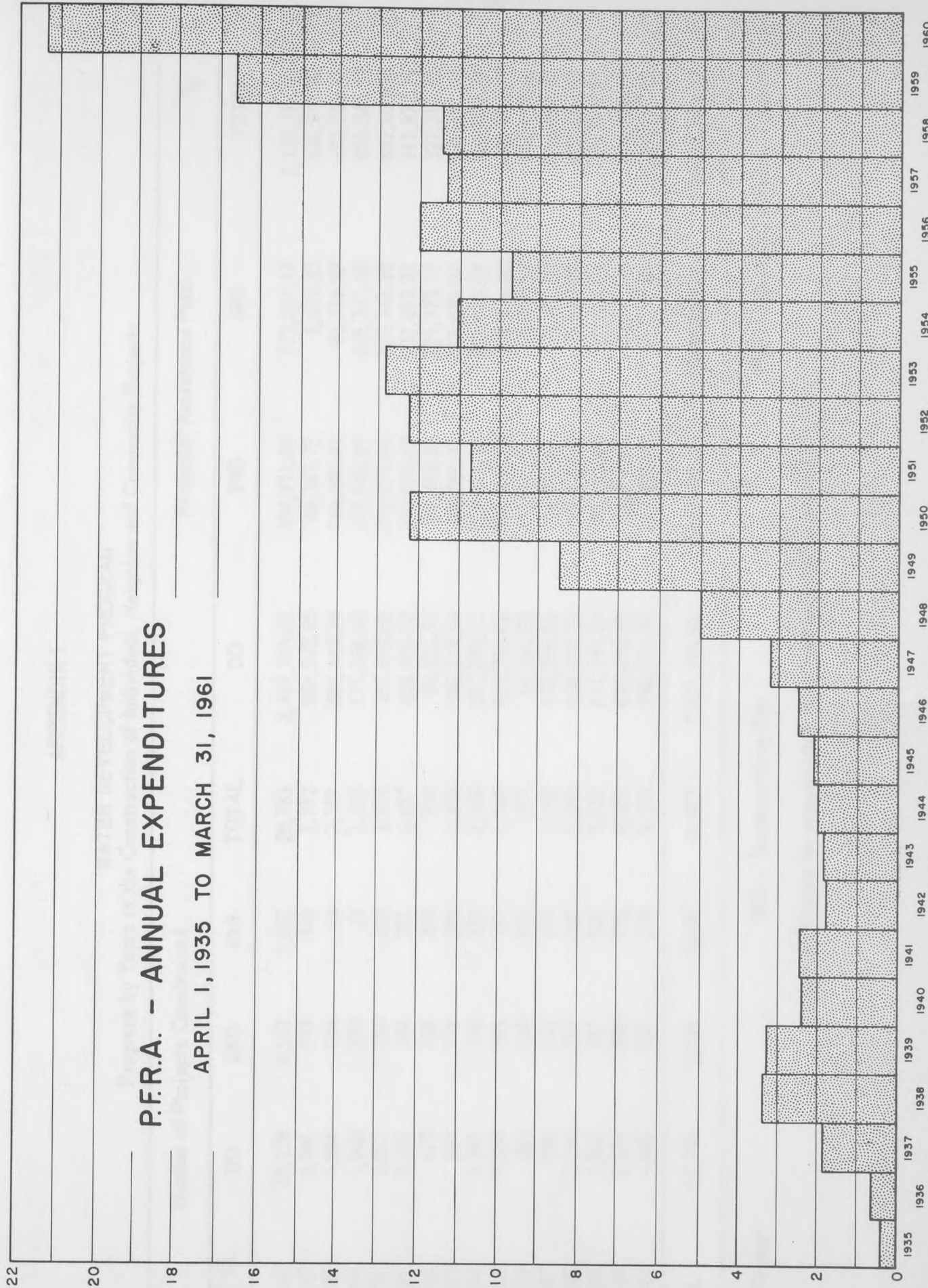
P.F.R.A. - ANNUAL EXPENDITURES

APRIL 1, 1935 TO MARCH 31, 1961

MILLIONS OF DOLLARS

YEARS (FISCAL)

PLATE IX

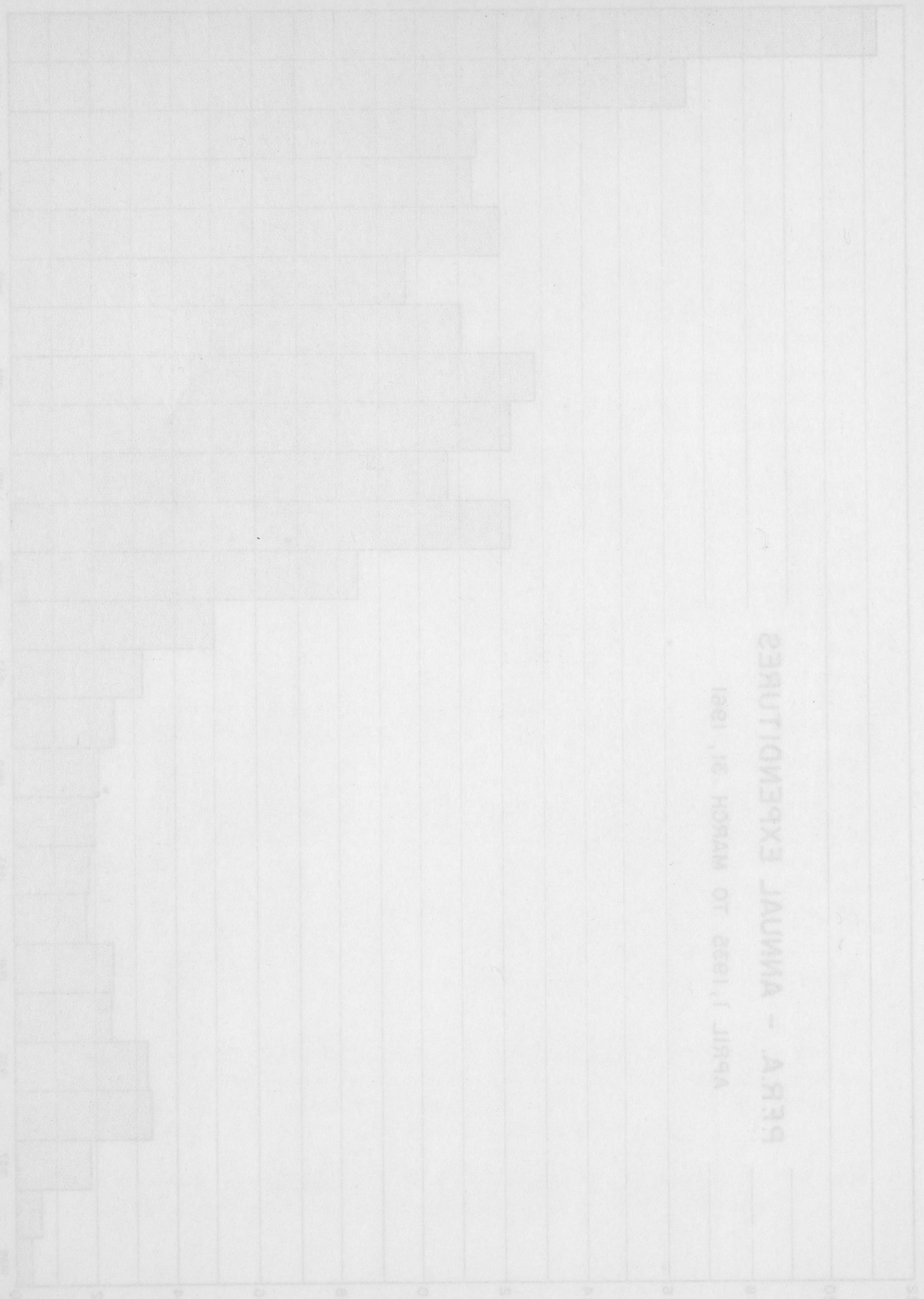


REGION (MILES)

SAVING IN THE - AREA

1991, 1992, 1993, 1994

REGION OF SAVINGS



APPENDIX I

WATER DEVELOPMENT PROGRAM

Progress by Years in the Construction of Individual, Neighbor and Community Projects

Fiscal Yr.	Number of Projects Constructed				Financial Assistance Paid			
	DO	SWD	IRR	TOTAL	DO	SWD	IRR	TOTAL
1935-46	23,158	4,573	1,032	28,763	2,469,106.61	496,711.09	173,557.12	3,139,374.82
1946-47	4,945	199	448	5,192	581,172.05	48,341.75	8,697.82	638,211.62
1947-48	1,804	241	64	2,109	202,443.78	140,601.81	90,715.57	433,761.16
1948-49	1,508	220	77	1,805	171,566.42	319,540.09	365,241.68	856,348.19
1949-50	3,031	164	123	3,318	367,392.80	214,973.66	220,242.50	802,608.96
1950-51	3,442	494	721	4,657	408,385.52	295,594.47	237,892.22	941,872.21
1951-52	478	106	350	934	60,051.14	95,488.30	171,773.19	327,312.63
1952-53	861	119	290	1,270	100,219.54	32,769.41	116,672.07	249,661.02
1953-54	1,791	190	187	2,168	227,372.12	126,415.05	209,287.59	563,074.76
1954-55	1,314	242	193	1,749	161,716.42	201,457.82	122,534.03	485,708.27
1955-56	504	159	114	777	68,141.55	78,443.87	87,547.88	234,133.30
1956-57	863	131	114	1,108	112,268.86	46,272.04	157,803.10	316,344.00
1957-58	2,218	225	155	2,598	268,273.35	143,319.23	90,787.91	502,380.49
1958-59	3,288	281	168	3,737	411,791.24	135,211.03	97,049.58	644,051.85
1959-60	3,974	259	136	4,369	820,479.90	98,981.43	70,894.59	990,355.92
1960-61	4,602	501	170	5,273	990,874.56	118,308.58	76,121.89	1,185,305.03
TOTAL	57,781	8,104	3,942	69,827	7,421,255.86	2,592,429.63	2,296,818.74	12,310,504.23

DO - Dugout

SWD - Stockwatering Dam

IRR - Individual Irrigation Project

* - Annual figures for accumulated years may be found in previous reports

APPENDIX II

WATER DEVELOPMENT PROGRAM

Number of Individual, Neighbor, Community and Large Water Development Projects and amount of financial assistance paid from April 1, 1960 to March 31, 1961

	DUGOUTS			DAMS			IRRIGATION PROJECTS			TOTALS		
	Projects Paid	Financial Assistance Paid	Projects Paid	Projects Paid	Financial Assistance Paid	Projects Paid	Projects Paid	Financial Assistance Paid	Projects Paid	Financial Assistance Paid	Projects Paid	
MANITOBA												
Individual	594	125,256.75	6		1,422.71	14		10,618.33	614			137,297.79
Neighbor	4	1,545.56	-		-	-		-	4			1,545.56
Community	1	1,500.00	1		2,990.75	-		-	2			4,490.75
Large Water	-	-	2		225,725.82	-		-	2			225,725.82
TOTAL	599	128,302.31	9		230,139.28	14		10,618.33	622			369,059.92
SASKATCHEWAN												
Individual	2,803	576,538.46	269		40,342.33	104		37,765.30	3,176			654,646.09
Neighbor	30	13,637.91	2		609.00	6		4,223.24	38			18,470.15
Community	17	21,277.31	6		29,627.77	2		11,103.44	25			62,008.52
Large Water	-	-	3		179,468.37	-		-	3			179,468.37
TOTAL	2,850	611,453.68	280		250,047.47	112		53,091.98	3,242			914,593.13
ALBERTA												
Individual	1,146	226,644.69	213		32,611.13	44		12,411.58	1,403			271,667.40
Neighbor	-	-	1		642.89	-		-	1			642.89
Community	7	24,473.88	3		10,062.00	-		-	10			34,535.88
Large Water	-	-	-		-	-		-	-			-
TOTAL	1,153	251,118.57	217		43,316.02	44		12,411.58	1,414			306,846.17
GRAND TOTAL	4,602	990,874.56	506		523,502.77	170		76,121.89	5,278			1,590,499.22

APPENDIX III

WATER DEVELOPMENT PROGRAM

Number of Individual, Neighbor, Community and Large Water Development Projects and amount of financial assistance paid from April 1, 1935 to March 31, 1961

	DUGOUTS				DAMS				IRRIGATION PROJECTS				TOTALS	
	Projects Paid	Financial Assistance Paid	Projects Paid	Financial Assistance Paid	Projects Paid	Financial Assistance Paid	Projects Paid	Financial Assistance Paid	Projects Paid	Financial Assistance Paid	Projects Paid	Financial Assistance Paid	Projects Paid	Financial Assistance Paid
MANITOBA														
Individual	12,578	1,375,053.63	328	26,622.93	191	64,935.37	13,097	1,466,611.93						
Neighbor	63	13,854.86	15	4,496.20	8	2,212.62	86	20,563.68						
Community	7	12,530.86	24	131,160.47	2	30,582.54	33	174,273.87						
Large Water	-	-	20	1,281,690.82	6	617,217.00	26	1,898,907.82						
TOTAL	12,648	1,401,439.35	387	1,443,970.42	207	714,947.53	13,242	3,560,357.30						
SASKATCHEWAN														
Individual	36,759	4,569,332.16	4,726	429,051.60	2,396	574,048.53	43,881	5,572,432.29						
Neighbor	339	95,150.31	56	12,299.94	105	47,303.33	500	154,753.58						
Community	321	271,387.51	186	988,749.23	67	644,643.52	574	1,904,780.26						
Large Water	-	-	37	3,135,867.37	35	4,079,910.00	72	7,215,777.37						
TOTAL	37,419	4,935,869.98	5,005	4,565,968.14	2,603	5,345,905.38	45,027	14,847,743.50						
ALBERTA														
Individual	7,623	975,898.63	2,644	268,760.23	1,105	267,598.12	11,372	1,512,256.98						
Neighbor	41	11,787.11	14	3,960.99	15	5,033.69	70	20,781.79						
Community	50	96,260.79	111	727,328.04	53	660,461.02	214	1,484,049.85						
Large Water	-	-	4	26,632.00	18	693,004.00	22	719,636.00						
TOTAL	7,714	1,083,946.53	2,773	1,026,681.26	1,191	1,626,096.83	11,678	3,736,724.62						
GRAND TOTAL	57,781	7,421,255.86	8,165	7,036,619.82	4,001	7,686,949.74	69,947	22,144,825.42						

APPENDIX IV COMMUNITY WATER STORAGE AND IRRIGATION PROJECTS To March 31, 1961

(Community Projects costing less than \$1,000.00 are grouped under the heading of Small Community Projects in Appendices II and III)

MANITOBA

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Alexander Soil Conservation	Alexander	Soil Conservation	1944	-	-	5,250.00
Birtle Dam	Birtle	Stockwatering Dam	1947	-	-	11,490.00
Boissevain	Boissevain	Storage Dam	1954	-	580	29,992.00
Brandon Flood Irrigation	Brandon	Flood Irrigation	1949	1,000	-	27,107.00
Brandon Water Supply	Brandon	Storage Dam	1940	-	500	3,996.00
Clearwater Storage	Clearwater	Stockwatering Dam	1938	-	12	5,949.00
Crystal City Storage	Crystal City	Stockwatering Dam	1935	-	3	3,334.00
Dead Lake Community	Gladstone	Irrigation	1950	20	90	1,933.00
Edwards, R.M. of	Melita	Stockwatering Dam	1935	-	100	10,214.00
Hague Dam	Sanford	Stockwatering Dam	1953	-	-	29,183.00
Hampson Dam	Sanford	Storage Dam	1954	-	420	16,899.00
Hartney	Hartney	Irrigation	1941	-	-	10,264.00
Killarney	Killarney	Multi-purpose Dam	1956	-	800	41,965.00
LaSalle River Dams	LaSalle	Stockwatering Dam	1941	-	900	22,989.00
Lewko Dam	Sanford	Storage Dam	1954	-	320	20,874.00
Little Souris River Dam	Melita	Stockwatering Dam	1945	-	250	1,380.00
Mary Jane Storage Project	Manitou	Multi-purpose Dam	1959	-	1,150	89,644.00
McAuley Community Dam	McAuley	Stockwatering Dam	1955	-	20	2,051.00
Melita	Melita	Irrigation	1941	3,900	3,200	11,372.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Minnedosa Dam	Minnedosa	Storage Dam	1950	20	1,500	105,051.00
Morden Dam (Dead Horse Creek)	Morden	Irrigation	1941	100	1,200	344,274.00
Morris River Dams (3)	Morris	Stockwatering Dams	1960	-	207	64,232.00
Morris River-Rock Lake	Carmen	Stockwatering Dam	1940	-	10,000	23,401.00
Napinka	Napinka	Irrigation	1941	-	-	6,770.00
Neepawa Storage Project	Neepawa	Multi-purpose Dam	1960	-	4,000	345,238.00
Oak Lake	Oak Lake	Irrigation	1956	13,000	-	119,205.00
Park Lake	Neepawa	Stockwatering	1953	-	-	21,626.00
Plum Coulee	Plum Coulee	Multi-purpose Res.	1957	-	12	5,939.00
Plumas	Plumas	Multi-purpose Dam	1960	-	30	2,991.00
Rivers Dam	Rivers	Multi-purpose Res.	1960	-	26,000	1,083,392.00
Roland	Roland	Stockwatering Dugout	1957	-	1.5	1,000.00
Rosebank Dam	Rosebank	Stockwatering	1948	-	32	12,161.00
Roseau River Dam	Dominion City	Multi-purpose Dam	1957	-	-	54,705.00
Shoal Lake Project	Shoal Lake	Stockwatering	1948	-	3,500	8,491.00
Souris Dam	Souris	Multi-purpose Dam	1952	-	150	73,597.00
Souris, Town of	Souris	Stockwatering Dam	1935	-	150	3,841.00
St. Malo Dam	St. Malo	Multi-purpose Dam	1958	-	1,770	266,937.00
St. Lazare Storage Reservoir	Lazare	Stockwatering	1948	-	5	1,470.00
Turtle Mountain Reservoir	Boissevain	Multi-purpose Res.	1956	70	600	11,968.00
Wawanesa	Wawanesa	Irrigation	1941	-	-	125,332.00
Westbourne, R.M. of	Gladstone	Stockwatering	1947	-	-	5,993.00
Whitemud River	Woodside	Stockwatering	1949	-	160	6,506.00
Whitemud River Storage	Gladstone	Stockwatering Dam	1943	-	660	11,464.00
SASKATCHEWAN						
Abbey	Abbey	Stockwatering Dugout	1958	-	1.5	1,000.00
Abound	Caron	Multi-purpose Res.	1960	-	200	5,210.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Adair Creek	Wolseley	Multi-purpose Dam	1956	40	350	59,849.00
Adam's Lake	Battle Creek	Irrigation	1936	1,500	2,000	8,831.00
Admiral Storage Dam	Admiral	Irr. & Stockwatering	1949	2,000	2,200	38,520.00
Allan	Allan	Stockwatering	1948	-	300	4,477.00
Altawan	Govenlock	Irrigation	1960	1,000	5,830	261,479.00
Alsask	Alsask	Multi-purpose Res.	1958	-	30	9,710.00
Arcola	Arcola	Stockwatering Dam	1939	-	(underground)	17,310.00
Arena	Arena	Irr. & Stockwatering	1949	1,600	3,200	5,218.00
Arrarat	Abbey	Stockwatering Dam	1959	-	6	7,398.00
Artland Grazing	Marsden	Dugout	1955	-	1.5	1,000.00
Avon Heights Grazing Co-op.	Shaunavon	Stockwatering	1955	-	60	2,428.00
Avonhurst	Qu'Appelle	Stockwatering	1956	-	1.5	3,200.00
Avonlea	Avonlea	Dugout	1959	-	3	2,170.00
Balcarres	Balcarres	Stockwatering	1948	-	100	7,203.00
Balcarres Storage	Balcarres	Stockwatering	1953	-	20	10,294.00
Bateman	Gravelbourg	Irr. & Stockwatering	1949	400	114	4,739.00
Battleford	N. Battleford	Irrigation (pump)	1941	800	-	3,058.00
Beadle	Eston	Dugout	1959	-	3	1,393.00
Beadle Project	Eston	Dugout	1960	-	-	1,393.00
Beaver Creek	Hanley	Stockwatering	1951	-	200	7,998.00
Beechy #1	Beechy	Irr. & Stockwatering	1946	600	1,000	12,746.00
Beechy #2	Beechy	Irr. & Stockwatering	1948	200	100	6,240.00
Beechy Co-op.	Beechy	Stockwatering Dugout	1957	-	1.5	1,000.00
Belvoir	Glami s	Dugout	1959	-	3	1,484.00
Bengough Agricultural Community Project	Bengough	Dugout	1960	-	-	1,000.00
Bengough, R.M. of	Bengough	Stockwatering Dugout	1957	-	1.5	1,000.00
Big Arm Storage	Liberty	Irrigation	1939	5,000	5,200	13,161.00
Black Hills Grazing Co-op.	Piapot	Dugout	1955	-	5	2,520.00
Boharm	Boharm	Stockwatering	1948	-	100	6,250.00
Bracken	Bracken	Stockwatering	1946	-	158	1,001.00
Braddock Dam	Braddock	Irrigation	1952	2,000	1,600	83,999.00
Brightwater Creek	Hanley	Irrigation	1956	2,500	3,500	11,713.00
Brightwater Lake	Dundurn	Irrigation	1960	7,000	-	4,054.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap, Acre Feet	Costs	
Brown Hill Dam	Grenfell	Multi-purpose Dam	1958	—	275	99,394.00	
Buffalo Pound	Qu'Appelle Valley	Irrigation	1940	x	—	83,723.00	
Buffalo Valley	Wiseton	Dugout	1960	—	—	1,000.00	
Burstall	Burstall	Dugout	1960	—	—	1,500.00	
Cabri	Cabri	Stockwatering	1948	—	340	37,553.00	
Cabri Dam (Spillway)	Cabri	Stockwatering	1960	—	340	29,107.00	
Cadillac	Cadillac	Irrigation	1945	800	1,350	32,887.00	
Camberly	Camberly	Irrigation & Dam	1950	—	100	2,106.00	
Canora	Canora	Storage Dam	1941	—	300	16,128.00	
Caron	Caron	Storage	1948	—	100	17,109.00	
Caron Water Development	Thunder Creek	Storage Dam	1944	—	43,500	710,433.00	
Cedoux	Cedoux	Stockwatering	1947	—	314	4,999.00	
Ceylon Reservoir	Ceylon	Irrigation & Dam	1952	300	250	8,087.00	
Chapleau Lake	Montmartre	Stockwatering	1949	—	3,530	8,208.00	
Clair Creek	Wadena	Flood Irrigation	1957	100	—	1,877.00	
Claydon	Claydon	Multi-purpose Res.	1957	—	30	2,498.00	
Claydon	Claydon	Irrigation	1959	700	300	7,015.00	
Clearfield	Goodwater	Irrigation & Dam	1951	70	300	5,999.00	
Colgate	Colgate	Flood Irrigation	1958	320	—	7,110.00	
Conquest, Village of	Conquest	Dugout	1954	—	1.5	1,000.00	
Congress-Stonehenge	Limerick	Stockwatering Dugout	1958	—	2	1,000.00	
Consul-Vidora	Vidora	Irrigation	1950	3,000	—	62,500.00	
Coronach	Coronach	Irrigation & Dam	1947	300	1,450	97,807.00	
Craven Dam	Qu'Appelle Valley	Irrigation	1943	x	—	33,675.00	
Crooked & Round Lake	Qu'Appelle Valley	Irrigation	1941	x	—	48,650.00	
Cypress Storage	Ravenscrag	Irrigation	1939	20,000	80,000	467,691.00	
Coleville, Village of	Coleville	Dugout	1958	—	1.5	1,000.00	
Cupar	Cupar	Irrigation	1960	3,000	—	6,733.00	
Dalmeny	Dalmeny	Stockwatering	1951	—	3	1,000.00	
Davidson	Davidson	Irrigation	1937	100	277	3,114.00	
Davidson Storage Project	Davidson	Multi-purpose Dam	1959	—	400	36,006.00	
Davin	Kronau	Stockwatering	1947	—	1,080	13,501.00	
Dead Lake	Macoun	Irrigation	1941	Souris River Development			17,528.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Delisle	Delisle	Stockwatering	1950	-	45	4,899.00
Demaine	Demaine	Dugout	1960	-	-	1,000.00
Dixon Lake	Spring Valley	Irrigation	1959	500	2,500	13,951.00
Doonside Dam	Wawota	Irrigation	1955	1,500	1,500	3,438.00
Downey Lake	Maple Creek	Stockwatering Dam	1958	-	58	1,404.00
Dry Coulee	Eastend	Stockwatering Dam	1958	-	10	1,605.00
Dry Lake	Forward	Stockwatering	1949	-	600	9,729.00
Dunn & Watt	Mankota	Irrigation	1937	305	-	2,996.00
Dunning	Radville	Irrigation	1951	120	200	3,566.00
Dummer	Milestone	Irrigation & Dam	1949	500	200	4,742.00
Dodsland	Druid	Dugout	1958	-	1.5	1,000.00
Eagle Hill Creek	Plenty	Stockwatering	1946	-	10,700	6,432.00
Eagle Lake	Coleville	Irrigation & Dam	1949	2,000	3,000	5,998.00
Eastend	Eastend	Irrigation	1939	4,000	1,300	161,682.00
Eastview	Eastview	Stockwatering	1949	-	200	5,970.00
Eatonia	Eatonia	Stockwatering	1949	-	12	1,199.00
Echo Lake	Qu'Appelle Valley	Irrigation	1943	x	-	41,753.00
Egg Lake	Avonhurst	Multi-purpose Res.	1957	800	-	10,047.00
Elfros	Elfros	Stockwatering	1949	-	25	7,330.00
Emerald Hill	Milestone	Stockwatering	1958	-	250	7,582.00
Eston	Eston	Stockwatering	1954	-	10	11,469.00
Fahlman's Creek Project	Balgonie	Stockwatering	1949	-	400	15,599.00
Fairy Hill	Qu'Appelle Valley	Irrigation	1941	x	-	4,302.00
Fife Lake Restoration	Constance	Irrigation & Dam	1954	1,200	-	9,596.00
Fife Lake #2	Constance	Irrigation & Dam	1954	650	-	6,348.00
Fillmore	Fillmore	Stockwatering Dugout	1958	-	1.5	1,000.00
Fleming	Fleming	Dugout	1960	-	-	1,000.00
Fleming Creek	Moosomin	Stockwatering	1950	-	75	3,282.00
Foam Lake (Elfros)	Foam Lake	Irrigation	1957	4,000	-	11,964.00
Francis Lake	Morse	Irrigation	1956	1,560	-	17,305.00
Frenchman Flats	Dundurn	Irrigation	1949	1,800	2,800	9,996.00
Frenchville	Frenchville	Irrigation & Dam	1947	430	670	8,096.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Gibson Flats	Pennant	Irrigation	1953	1,200	-	14,177.00
Girvin	Girvin	Stockwatering Dam	1937	-	19	2,180.00
Glenside	Glenside	Stockwatering	1948	-	150	3,286.00
Glidden, Village of	Glidden	Dugout	1959	-	3	1,200.00
Gooseberry Lake	Corning	Stockwatering	1948	-	2,500	8,783.00
Gouverneur Dam	Ponteix	Irrigation	1952	6,000	10,000	242,468.00
Graham-Rogers	Qu'Appelle	Irrigation	1959	500	-	2,780.00
Grattle Grazing Co-op.	Hoosier	Dugout	1960	-	3	1,495.00
Gravelbourg South	Gravelbourg	Irrigation	1948	600	1,500	8,186.00
Gravelbourg Storage	Gravelbourg	Irrigation	1947	500	-	1,917.00
Grosnick	Lake Alma	Stockwatering Dugout	1957	-	1.5	1,000.00
Gunn Grazing Co-op.	Shaunavon	Multi-purpose Res.	1957	-	10	1,632.00
Gull Lake	Gull Lake	Multi-purpose Res.	1960	-	80	1,850.00
Hague Dugout	Hague	Stockwatering	1950	-	2	1,000.00
Hazlet	Hazlet	Multi-purpose Dam	1960	-	500	3,550.00
Hodgeville	Hodgeville	Stockwatering	1949	-	5	2,748.00
Hanley	Hanley	Stockwatering	1946	-	60	3,797.00
Harris Reservoir	Maple Creek	Irrigation	1956	1,000	5,000	238,074.00
Haunted Hills Grazing Co-op.	Moose Jaw	Stockwatering Dam	1959	-	10	1,640.00
Hoosier, Hamlet of	Hoosier	Dugout	1959	-	3	1,190.00
Hugonard Coulee Dam	Lebret	Multi-purpose Dam	1956	100	400	64,231.00
Jackfish Creek	Meota	Stockwatering Dam	1943	-	90	2,940.00
Jumping Deer Creek	Lipton	Stockwatering	1947	-	145	6,092.00
Kaposvar	Stockholm	Stockwatering	1947	-	290	11,946.00
Kaposvar Creek	Melville	Stockwatering Dam	1954	-	1,400	102,747.00
Katepwa Weir	Katepwa	Dam	1957	-	-	61,192.00
Kelfield	Kelfield	Stockwatering	1947	-	25	4,927.00
Kerrobart	Kerrobart	Multi-purpose Res.	1957	-	40	11,554.00
Kincaid	Kincaid	Stockwatering	1956	-	10	2,539.00
Kindersley	Kindersley	Stockwatering	1949	-	300	2,007.00
Kisbey Flats	Kisbey	Irrigation	1939	2,300	5,000	23,211.00
Koch-Froh	Qu'Appelle	Multi-purpose Res.	1956	160	-	2,390.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Lack Pelletier	Lac Pelletier	Stockwatering Dam	1937	-	3,350	2,139.00
Lacadena	Lacadena	Irrigation	1954	-	-	9,678.00
Lafleche	Lafleche	Stockwatering Dam	1940	-	38	2,524.00
Lafleche Dam	Lafleche	Multi-purpose Dam	1957	15,000	30,120	627,922.00
Lajord	Lajord	Dam	1936	-	300	13,800.00
Lake of the Rivers	Assiniboia	Stockwatering Dam	1938	-	300	10,805.00
Lancer Water Users	Lancer	Irrigation	1953	1,265	-	35,000.00
Langenburg	Langenburg	Irrigation & Dam	1949	800	200	11,752.00
Langenburg	Langenburg	Irrigation	1954	-	2.5	3,000.00
Larsen	Radville	Multi-purpose Dam	1957	-	500	36,437.00
Last Mountain Lake	Qu'Appelle Valley	Irrigation	1941	x	-	42,721.00
Lebret	Qu'Appelle Valley	Irrigation	1941	x	-	16,307.00
Lemsford	Lemsford	Stockwatering Dugout	1957	-	1.5	1,000.00
Linacre Co-op.	Fox Valley	Dugout	1960	-	-	1,100.00
Little Manitou Lake	Watrous	Dam	1957	-	-	39,271.00
Lone Tree Municipality	Climax	Dugout	1960	-	-	1,200.00
Lonesome Lake	Vidora	Irrigation	1949	900	800	2,771.00
Long Creek #1	Estevan	Stockwatering Dam	1938	-	137	8,729.00
Long Creek #2	Estevan	Stockwatering Dam	1938	-	90	8,701.00
Loon Creek	Markinch	Stockwatering Dam	1945	-	700	7,180.00
Lucky Lake	Lucky Lake	Stockwatering	1946	-	120	7,596.00
McIntosh Slough	Golden Prairie	Irrigation	1949	500	1,500	1,990.00
Macklin Storage	Macklin	Stockwatering	Incomplete	-	40	967.00
Maple Creek	Maple Creek	Irrigation	1938	10,000	23,260	356,179.00
Maple Grove	Goodwater	Dam	1959	-	330	5,988.00
March Flood Irrigation	Cedoux	Irrigation	1948	400	-	1,765.00
Martin Co-op.	Maple Creek	Dugout	1960	-	-	4,230.00
Masefield	Masefield	Stockwatering	1938	-	40	3,187.00
Masefield Water Users	Masefield	Multi-purpose Dam	1957	500	250	7,999.00
Matador	Matador	Irrigation & Dam	1946	120	220	5,216.00
Maymont	Maymont	Dugout	1959	-	1.5	1,200.00
Maxim Lake	Maxim	Stockwatering	1949	-	5,000	20,472.00
McCrane, R.M. of	Kenaston	Stockwatering Dam	1937	-	350	1,896.00
McDonald Creek	McCord	Irrigation & Dam	1950	400	90	4,992.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
McGurk Lake	Carlyle	Dam	1960	—	2,000	3,128.00
Meadowland	Macklin	Irrigation	1954	500	—	6,370.00
Meeting Lake	Redfield	Stockwatering	1949	—	100	2,683.00
Melaval	Melaval	Stockwatering	1950	—	18	1,200.00
Meota, R.M. of	Meota	Dugout	1953	—	1.5	1,000.00
Middle Creek	Battle Creek	Irrigation	1937	1,000	20,000	18,663.00
Mine Coulee	Neptune	Stockwatering	1948	—	40	4,377.00
Miry Creek, R.M. of	Abbey	Dam	Incomplete	—	20	4,680.00
Montague Lake	Assiniboia	Irrigation	1953	235	—	1,000.00
Moose Jaw Creek	Lang	Irrigation	1938	2,250	—	7,618.00
Moose Mountain	Corning	Irrigation	1937	—	2,180	14,829.00
Moosomin Dam (Keenan Bridge)	Moosomin	Multi-purpose Dam	1954	—	9,000	449,184.00
Muenster	Muenster	Irrigation	1949	25	11	2,754.00
Muenster	Muenster	Multi-purpose Dam	1960	—	80	8,085.00
Neudorf	Neudorf	Multi-purpose Res.	1958	—	—	1,790.00
Newburn Lake	Invermay	Irrigation & Dam	1952	50	1,280	6,477.00
North Herbert Extension	Herbert	Irrigation	Incomplete	—	—	511,909.00
North Portal	North Portal	Dugout	1959	—	2	1,810.00
North Qu'Appelle	Fort Qu'Appelle	Stockwatering Dam	1948	—	100	2,386.00
Oakdale Municipality	Coleville	Dugout	Incomplete	—	—	1,020.00
Orkney	Orkney	Stockwatering Dam	1958	—	10	1,982.00
Oxbow Dam	Oxbow	Irrigation	1941	3,900	3,200	17,436.00
Pangman	Pangman	Multi-purpose Res.	1957	30	125	5,533.00
Pasqua	Moose Jaw	Stockwatering	1948	—	40	3,777.00
Pike Lake	Vanscoy	Irrigation & Dam	1948	900	2,500	7,360.00
Pinkham Co-op.	Pinkham	Dugout	1960	—	—	1,497.00
Pinkham Project	Kindersley	Dugout	1960	—	—	1,000.00
Pinto Creek	Kincaid	Dugout	1960	—	—	1,000.00
Pipestone Lake	Broadview	Stockwatering Dam	1938	—	1,600	11,785.00
Pheasant Creek	Lemberg	Storage	1954	—	500	114,464.00
Poplar River	Coronach	Irrigation & Dam	1950	300	900	14,838.00
Portreeve	Portreeve	Stockwatering Dugout	1957	—	1.5	1,000.00
Primate	Primate	Stockwatering Dugout	1957	—	1.5	1,000.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Radville	Radville	Stockwatering	1947	-	32	5,019.00
Reciprocity	Glen Ewen	Irrigation & Dam	1949	2,000	1,750	27,410.00
Redford	Wilkie	Stockwatering	1951	-	160	1,814.00
Richman Irrigation	Glen Bain	Irrigation	1949	-	1,000	4,607.00
Richardson-McKinnon	Consul	Irrigation	1946	3,000	-	53,913.00
Ridgeway Flats	Qu'Appelle	Multi-purpose	1957	65	80	2,054.00
Rinfret	Weyburn	Dugout	1959	-	6	6,997.00
Rockglen Grazing	Rockglen	Irrigation & Dam	1955	600	300	13,455.00
Rosedale	Hanley	Irrigation	1948	60	100	1,016.00
Rosthern Water Storage	Rosthern	Storage Dam	1958	-	160	22,613.00
Rough Bark Creek	Goodwater	Stockwatering Dam	1937	-	1,500	9,314.00
Round Hill Water Users	N. Battleford	Irrigation & Dam	1950	425	50	4,791.00
Ruddell, Village of	Ruddell	Dugout	1959	-	1.5	1,000.00
Russell Creek	Pambrun	Irrigation	1951	1,000	2,000	66,493.00
Rockfield	Trossachs	Multi-purpose Res.	1960	-	200	6,850.00
Saline	Invermay	Multi-purpose Res.	1958	1,000	-	2,377.00
Saltcoats	Bredenbury	Dugout	1960	-	-	1,000.00
Salvador	Reward	Stockwatering	1951	-	5	1,000.00
Saskatoon	Saskatoon	Storage Dam	1940	-	1,200	290,446.00
Sauder	Rush Lake	Storage & Irrigation	1949	-	800	29,115.00
Scotsguard	Scotsguard	Irrigation & Dam	1949	2,000	3,000	1,962.00
Scotsguard	Shaunavon	Stockwatering Dugout	1960	-	-	2,800.00
Scotsguard	Shaunavon	Stockwatering Dugout	1958	-	3	1,857.00
Shaheen	Rush Lake	Storage & Irrigation	1949	-	300	9,028.00
Shackleton, Village of	Shackleton	Dugout	1959	-	1.5	1,500.00
Shrimp Lake	Herschel	Stockwatering	1947	-	450	9,367.00
Sinfield	Kelvington	Multi-purpose Res.	1957	10	-	3,177.00
Skyeta, Com.	Springside	Dam	1959	-	15	3,885.00
Sioux Reserve	Fort Qu'Appelle	Stockwatering	1949	-	75	8,605.00
Sliding Hills Municipality	Veregin	Dugout	1960	-	-	1,000.00
Smiley, Village of	Smiley	Dugout	1949	-	1.5	1,000.00
Smiley	Smiley	Irrigation & Dam	1951	600	300	9,998.00
Snake Bite	Smiley	Irrigation	1954	665	-	9,999.00
Snipe Lake	Beechy	Stockwatering	1949	-	-	3,415.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Snowdown Grazing Co-op.	Fox Valley	Dugout	1959	-	1.5	1,898.00
Souris-Estevan	Estevan	Irrigation	1941	-	-	91,133.00
Souris-Oxbow Weir	Oxbow	Stockwatering	1960	-	340	37,343.00
Souris River	Weyburn	Flood Control	1948	-	-	11,998.00
South Abernethy Project	Abernethy	Irrigation	1956	320	-	14,568.00
Spangler Project	Govenlock	Irrigation	1948	1,500	2,100	4,950.00
Stelcam Community Dam	Stelcam	Stockwatering	1956	-	360	9,791.00
Stephens Dam	Abernethy	Stockwatering	1948	-	12	8,716.00
Sturgis Community Dam	Sturgis	Stockwatering	1950	-	60	20,961.00
Summerberry	Summerberry	Multi-purpose Res.	1956	427	-	6,824.00
Summercove	Mankota	Irrigation & Dam	1949	1,200	1,500	23,837.00
Summit Creek	Bridgeford	Irrigation & Dam	1949	800	3,000	13,227.00
Sunbeam Creek	Indian Head	Multi-purpose Res.	1957	100	300	5,216.00
Swift Current	Swift Current	Irrigation	1946	30,000	95,000	816,472.00
Talmage	Cedoux	Irrigation	1948	1,600	-	3,483.00
Tantallon	Tantallon	Stockwatering Dam	1942	-	-	2,790.00
Tatagwa Lake	Weyburn	Flood Irrigation	1958	10,000	-	28,840.00
Terrell, R.M. of	Spring Valley	Stockwatering	1952	-	10	2,491.00
Thunder Creek	Kettlehut	Flood Irrigation	1948	-	-	27,204.00
Thunder Creek Channel	Moose Jaw	Irrigation & Dam	1951	300	7,000	10,007.00
Tilney	Tilney	Multi-purpose Res.	1958	-	100	8,308.00
Tribune Dam	Tribune	Stockwatering	1950	-	300	6,499.00
Truax	Truax	Stockwatering	1949	-	250	11,899.00
Tuxford	Tuxford	Flood Irrigation	1957	800	-	7,320.00
Twelve Mile Lake	Maxstone	Flood Irrigation	1956	-	-	7,998.00
Tyvan	Tyvan	Stockwatering	1947	-	1,000	11,986.00
Val Marie	Val Marie	Irrigation	1937	5,920	7,000	214,558.00
Val Marie West (including new Spillway 1959)	Val Marie	Irrigation	1940	4,230	2,000	321,586.00
Valeport Dyke	Valeport	Dam	1958	1,500	-	139,748.00
Valley Park Irrigation	Valley Lake	Irrigation	1949	1,200	-	8,133.00
Verwood	Verwood	Stockwatering Dam	1958	-	16	1,414.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Weed Creek	Broadview	Flood Irrigation	1958	2,000	-	3,099.00
West Osage	Cedoux	Irrigation & Dam	1949	300	600	4,905.00
West Poplar #1	Kildeer	Multi-purpose Res.	1957	750	1,000	16,230.00
Weyburn	Weyburn	Irrigation	1940	-	4,000	51,311.00
Wheatlands, R.M. of	Parkbeg	Irrigation & Dam	1951	100	60	3,452.00
White Gull Lake	Gull Lake	Flood Irrigation	1958	263	-	1,743.00
Wilson Lake	Lizard Lake	Multi-purpose Res.	1956	400	-	2,813.00
Wittrock	Hodgeville	Irrigation	1947	520	-	3,884.00
Wolseley	Wolseley	Stockwatering	1948	-	20	1,800.00
Wolverine Creek	Humboldt	Stockwatering Dam	1945	-	522	52,600.00
Wood Mountain	Willow Bunch	Irrigation & Dam	1951	40	60	6,337.00
Woodrow-Pinto Creek	Woodrow	Irrigation	1949	1,000	1,400	41,982.00
Wood River Development	Coderre and Gravelbourg	Stockwatering Dam	1942	-	4,923	33,738.00
Wynn Community Project	Wolseley	Multi-purpose Res.	1957	500	-	3,152.00
Wynyard	Wynyard	Stockwatering	1947	-	35	6,225.00
Young	Young	Stockwatering	1948	-	250	8,892.00

x - Ultimate irrigation development for all projects along Qu'Appelle River Valley 30,000 - (total storage capacity - 95,600 acre feet).

ALBERTA

Acadia Valley	Acadia Valley	Dugout	1953	-	1.5	2,252.00
Acadia Valley #2	Acadia Valley	Dugout	1954	-	1.5	1,000.00
Aetna Irrigation District	Aetna	Irrigation	1947	8,000	-	82,004.00
Airdree	Calgary	Multi-purpose Res.	1958	-	200	9,789.00
Ambrose Flats	Irvine	Irrigation	1951	800	1,000	4,781.00
Anatole	Hanna	Stockwatering	1953	-	7	2,990.00
Antelope Park	Nemiscam	Stockwatering Dugout	1957	-	1.5	1,000.00
Argyle, M.D. of	Staveley	Stockwatering	1949	-	80	10,912.00
Atlee Gas Well #1	Atlee	Irrigation (pump)	1939	7,000	-	12,423.00
Atlee Gas Well #2	Atlee	Irrigation (pump)	1939	-	-	14,300.00
Atlee Buffalo	Atlee	Dugout	1959	-	9	7,200.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Badger Lake	Lomond	Stockwatering	1948	-	10	2,990.00
Bain Community	Foremost	Dugout	1959	-	10.5	6,800.00
Balzac	Balzac	Irrigation	1956	900	-	8,141.00
Bare Creek	Comrey	Irrigation & Dam	1950	-	500	11,600.00
Bare Creek #2	Comrey	Multi-purpose Dam	1956	1,000	1,100	13,029.00
Bartman Dam	Cessford	Irrigation	1943	1,000	3,000	49,100.00
Beautyland	Bindloss	Dugout	1959	-	6	1,500.00
Beauvais Lake	Pincher Creek	Irrigation	1950	2,000	2,400	15,996.00
Beaver Dam Creek Reservoir	Castor	Stockwatering	1950	-	300	17,996.00
Bedford Slough	Medicine Hat	Irrigation	Incomplete	3,000	200	35,493.00
Bell Lake	Pollockville	Irrigation	1949	700	1,500	4,738.00
Berry Creek	Carolside	Irrigation	1948	10,000	30,000	158,884.00
Bircham	Calga.y	Flood Irrigation	1958	1,200	-	8,295.00
Bluefield Grazing Assoc.	Thelma	Stockwatering	1956	-	30	3,500.00
Blood Indian Reserve	Cardstone	Dugout	1960	-	-	2,079.00
Bowell	Bowell	Dugout	1954	-	1.5	1,000.00
Bow Island	Bow Island	Stockwatering Dam	1958	-	1.5	1,000.00
Bowmanton	Bowmanton	Stockwatering	1953	-	500	14,860.00
Brunswick Coulee	Enchant	Irrigation	1949	500	205	4,631.00
B.T. Grazing Co-op.	Hilda	Stockwatering	1956	-	3	1,000.00
Bull Pound Creek	Hanna	Stockwatering Dam	1939	-	2,000	-
Bullshead Creek	Medicine Hat	Irrigation	1940	800	1,130	8,170.00
Burke Creek	Claresholm	Stockwatering Dugout	1957	-	6	3,890.00
Burm's Creek	Burm's	Multi-purpose Res.	1957	550	250	14,683.00
Cameron	Youngstown	Multi-purpose Dam	1957	662	1,000	3,905.00
#Canada Land & Irrig. Project	Medicine Hat	Irrigation	1936	45,000	-	80,000.00
Caranova	Bowell	Multi-purpose Res.	1957	500	250	8,199.00
Carbon	Carbon	Multi-purpose Res.	1957	300	50	8,958.00
Champion	Champion	Irrigation	1954	2,500	-	4,984.00
Chipman Creek	Burm's	Flood Irrigation	1957	700	-	3,298.00
Clear Lake	High River	Stockwatering	1948	-	10,000	35,000.00
Collins	Sheerness	Stockwatering Res.	1956	-	40	3,495.00
Commodore	Vulcan	Irrigation	1954	400	-	3,990.00
Comrey Grazing	Comrey	Dugout	1953	-	1.5	1,000.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Conrich	West Calgary	Irrigation	1954	1,600	-	6,240.00
Consort	Hanna	Stockwatering	1955	-	20	9,651.00
Coutes Community Project	Coutes	Stockwatering Dam	1959	-	15	7,743.00
Cowley Community	Cowley	Irrigation	1952	750	-	4,666.00
Craigmyle	Craigmyle	Multi-purpose Dugout	1958	-	1.5	1,000.00
Cressday	Medicine Hat	Stockwatering	1954	-	-	13,541.00
Crowfoot	Gleichen	Multi-purpose Res.	1958	-	110	3,576.00
Cutbank Coulee	Cressday	Stockwatering Res.	1956	350	500	2,337.00
C.Y. Water Users	Taber	Stockwatering	1949	-	310	16,477.00
Cypress View	Irvine	Multi-purpose Res.	1958	-	300	11,336.00
D'Arcy	Hanna	Multi-purpose Res.	1957	-	15	2,116.00
Dead Fish Creek	Cessford	Irrigation	1949	4,000	5,000	47,832.00
Del Bonita	Twin River	Stockwatering	1955	-	250	9,196.00
Delia	Morrin	Stockwatering	1955	-	165	3,914.00
Drowning Ford	Vale	2 Dugouts & Dam	1953	-	100	4,368.00
East Berry Creek	Roselynn	Irrigation	1949	1,500	750	9,677.00
East Trout Creek	Stavely	Stockwatering Dam	1958	-	8	3,446.00
Eastern Irrigation District	Brooks	Irrigation	1937	2,280	22,000	22,490.00
Eastern Irrigation District (Antelope Coulee)	Brooks	Irrigation	Incomplete	-	-	35,793.00
Esler	Hanna	Stockwatering	1954	-	17	2,808.00
Esther Flood Irrigation	Macklin	Irrigation	1952	4,000	5,000	4,592.00
Eureka Irrigation Project	Grassy Lake	Irrigation	1949	12,000	1,000	38,568.00
Fenn	Stettler	Stockwatering Dam	1959	-	35	1,400.00
Fish Lake	Pincher Creek	Irrigation & Dam	1954	1,000	-	6,895.00
Franklin Coulee	Retlaw	Stockwatering	1948	-	1,500	20,125.00
Garden Plains	Spenden	Stockwatering Dugout	1956	-	6	1,596.00
Graham Creek	Calgary	Stockwatering Dam	1943	-	230	8,529.00
Granlea Community	Granlea	Stockwatering Dam	1959	-	725	12,853.00
Grainger	Three Hills	Multi-purpose Res.	1956	30	117	9,482.00
Greasewood Coulee	Manyberries	Irrigation & Dam	1954	500	650	9,798.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acres Feet	Costs
Halkirk Com.	Halkirk	Irrigation	Incomplete	303	-	2,637.00
Hampton	Youngstown	Multi-purpose Res.	1957	2,000	401	8,000.00
Hanna	Hanna	Stockwatering	1948	-	500	29,498.00
Hays	Hays	Dugout	1960	-	-	4,500.00
Heath Creek	Northfork	Stockwatering Dam	1958	-	12	3,848.00
Hilda Community Project	Hilda	Multi-purpose Dugout	1957	-	10	5,180.00
Huber Dam	Castor	Stockwatering Dam	1959	-	112	3,068.00
Illingsworth	Bow Island	Dugout	1954	-	1.5	1,000.00
Indian Farm Creek	Pincher Creek	Irrigation & Dam	1953	600	500	4,795.00
Indus Community Project	Conrich	Irrigation	1955	1,220	-	9,843.00
Irvine	Irvine	Irrigation & Dam	1950	70	100	4,799.00
Irvine	Irvine	Multi-purpose Res.	1960	-	15	4,714.00
Jaydot	Elkwater	Multi-purpose Res.	1956	300	400	8,988.00
Kathryn	Calgary	Irrigation & Dam	1954	300	-	9,184.00
Lake Valley	Bowell	Stockwatering Dugout	1957	-	1.5	1,000.00
#Leavitt Irrigation	Mountain View	Irrigation	1939	7,000	7,050	65,578.00
Lewis	Vulcan	Irrigation & Dam	1953	350	-	4,345.00
Lochend Lake	Calgary	Dam & Irrigation	1958	1,600	1,100	7,750.00
Lomand	Lomand	Dugout	1959	-	3	1,000.00
Loveland	Hanna	Irrigation	1954	3,000	-	17,655.00
Loyalist Creek	Hanna	Irrigation	1950	2,000	1,400	14,993.00
Lundbreck	Pincher Creek	Stockwatering	1953	-	100	4,689.00
McArthur	Walsh	Dam	1959	-	700	14,565.00
McAlpine Reservoir	Walsh	Irrigation	1951	600	1,000	15,917.00
McGregor Dam	Vulcan	Irrigation	1951	1,500	700	9,473.00
McLaren	Michichi	Multi-purpose Res.	1957	150	660	13,815.00
Mackay Dam	Walsh	Irrigation	1952	600	300	9,600.00
#Magrath	Magrath	Irrigation	1939	4,000	-	2,756.00
Meadow Creek Dam	Claresholm	Irrigation	1952	1,500	-	5,630.00
Mekastoe	Fort MacLeod	Dam	1959	-	210	4,594.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Michelle Creek Project	Thelma	Multi-purpose Res.	1959	-	800	14,791.00
Milk River	Milk River	Dugout	1960	-	-	4,448.00
Milne Community Project	Conrich	Irrigation	1955	1,300	-	9,644.00
Mountain View	Mountain View	Storage Dam	1936	-	4,200	3,000.00
Naismith	Youngstown	Multi-purpose Res.	1956	300	145	9,421.00
Nemiscam	Etzikom	Dugout	1954	-	1.5	1,000.00
Nester	Cessford	Multi-purpose Res.	1957	300	1,350	8,670.00
New Brigden	Hanna	Stockwatering Dam	1958	-	60	3,582.00
Nobleford Water Users	Nobleford	2 Dugouts	1953	-	3	11,173.00
North Fincastle	Taber	Irrigation & Dam	1948	2,000	4,000	17,943.00
Osborne Water Conservation	Iddesleigh	Dam	1959	-	210	9,495.00
Oyen	Oyen	Stockwatering Dugout	1957	-	1.5	1,000.00
Parfles	Chancellor	Irrigation	1954	250	-	4,730.00
Peace Butte Reservoir	Peace Butte	Stockwatering	1955	450	550	8,993.00
Pershing Dam	Glenwood	Irrigation	1951	100	200	4,782.00
Pirmez Creek	Pirmez Creek	Irrigation	1951	6,000	500	20,998.00
Porcupine Hills	Fort MacLeod	Dugout	1959	-	1.5	4,599.00
Porcupine Hills Stock Assoc.	Fort MacLeod	Dugout	1960	-	-	1,868.00
Pothole Coulee	Magrath	Irrigation	1948	Part of St. Mary Project		
Priddis	High River	Stockwatering	1955	-	312	8,802.00
Provost, Village of	Provost	Multi-purpose Dam	1956	-	3	4,812.00
Ranchville Community Res.	Ranchville	Irrigation	1957	300	-	4,950.00
#Raymond	Raymond	Irrigation	1943	3,000	1,600	6,000.00
Reid Hill	Vulcan	Irrigation	1952	1,000	700	8,866.00
Remount	Bindloss	Dugout	1960	-	-	3,000.00
Rock Creek Stock Assoc.	Sandbreck	Stockwatering Dugout	Incomplete	-	-	1,819.00
Rock Lake Project	Brooks	Irrigation	1957	11,000	-	133,984.00
#Rolling Hills	Rolling Hills	Irrigation	1938	25,000	-	46,839.00
Rose Glen Water Users	Schuler	Multi-purpose Dam	1957	200	150	6,884.00
Ross Creek	Irvine	Irrigation	1950	3,000	5,000	47,998.00
Ross Lake Community	Raymond	Stockwatering	1950	-	300	7,987.00

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Rough Meadow Reservoir Ruks	Coronation Pincher Creek	Irrigation Irrigation & Dam	1951 1954	200 900	- 250	2,471.00 6,484.00
Schuler Water Users	Schuler	Multi-purpose Res.	1957	-	5	5,443.00
Serviceberry Creek	near Drumheller	Irrigation	1949	1,200	500	17,518.00
Seven Persons	Seven Persons	Stockwatering Dam	1943	-	800	12,103.00
Severn Creek	Rosebud	Irrigation & Dam	1950	1,000	1,000	24,990.00
Sheerness Grazing (Blois)	Roselynn	Stockwatering	1953	-	12	3,797.00
Sheerness #2	Roselynn	Stockwatering	1954	-	50	2,190.00
Snake Creek	Calgary	Irrigation & Dam	1950	500	300	15,976.00
Spondin	Hanna	Dugout	1955	-	1.5	1,000.00
Spruce Coulee	Elkwater	Stockwatering Dam	1959	-	1,000	12,496.00
Spruce Co-op.	Parkland	Stockwatering Dugout	1960	-	-	3,529.00
Starland, M.D. of	Morrin	Stockwatering	1956	-	45	3,196.00
Stehr Coulee	Walsh	Multi-purpose Res.	1956	-	26	4,570.00
Sounding Creek	Cereal	Irrigation	1949	8,000	5,600	51,988.00
South MacLeod	MacLeod	Irrigation	1948	6,000	-	82,614.00
Squaw Coulee	High River	Irrigation	1949	2,000	455	17,999.00
Sundial	Champion	Dugout	1959	-	6	3,102.00
Swalwell	Swalwell	Multi-purpose Res.	1957	280	300	9,463.00
Three Hills	Three Hills	Stockwatering	1948	-	120	19,652.00
Twin Lakes	Chancellor	Irrigation	1954	500	-	12,498.00
Twin River Grazing	Twin River	Stockwatering	1953	-	125	4,486.00
Two Lakes	Elkwater	Multi-purpose Res.	1958	1,500	1,900	14,378.00
Vulcan Dam	Vulcan	Irrigation	1951	400	150	3,997.00
Vauxhall	Vauxhall	Stockwatering	1948	-	30	5,883.00
Waddington	Vale	Multi-purpose Res.	1957	-	12	2,904.00
Walsh Flats	Walsh	Irrigation	1953	2,100	25,000	4,700.00
Watts Flats	Watts	Flood Irrigation	1958	2,000	-	6,147.00
(Bull Pound-Lone Butte)	Claresholm	Dugout	1960	-	-	2,263.00
West Trout Creek	Rockyford	Irrigation	1952	-	-	4,744.00
Wheatacre #2						

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
Wheatacre Dam	Rockyford	Irrigation	1950	1,600	1,500	12,976.00
Wild Horse Storage	Cressday	Irrigation	1936	3,600	4,500	24,370.00
Wintering Hills	Hussar	Irrigation	1950	1,000	500	9,993.00
Wisdom Water Users	Medicine Hat	Multi-purpose Res.	1957	420	500	14,403.00
Woolford Community Project	Cardston	Irrigation	1955	400	-	3,593.00
Writing on Stone	Milk River	Dugout	1959	-	6	8,291.00
Yeast Reservoir	Thelma	Irrigation	1953	400	800	6,592.00

- P.F.R.A. gave assistance to a project already in existence to improve storage capacities, canals and distribution systems.

Name of Project

APPENDIX V CUMULATIVE STATEMENT

Development and Operation of Community Pastures under the
Prairie Farm Rehabilitation Act
1938 to March 31, 1961

Fiscal Year	No. of Pasture Units in Opera- tion	Area of Land in Pastures (acres)	Total Cost of Construction of Pastures \$	Livestock Units Carried on Pastures	X		Cost of Operation		Net Opera- ting cost per Unit of Livestock \$	Average Charge per Unit Live- stock to Farmers \$
					Acres per Unit of Live- stock	Unit of Live- stock	Revenue \$	Operating Costs \$		
1938-39	14	189,800	165,995.03	3,231	58.7		6,339.92	10,185.52	3.15	1.96
1939-40	26	612,300	663,471.25	11,522	53.1		21,632.71	20,945.84	1.82	1.88
1940-41	35	884,500	1,004,305.91	23,245	38.1		43,451.56	35,291.05	1.52	1.87
1941-42	38	936,548	1,187,360.92	33,230	28.2		65,434.89	50,607.22	1.52	1.97
1942-43	45	1,261,100	1,129,487.54	51,127	24.7		98,292.32	79,906.76	1.56	1.92
1943-44	46	1,268,140	1,558,055.31	54,472	23.3		111,114.25	107,534.66	1.97	2.04
1944-45	49	1,337,320	1,699,012.21	59,997	22.3		151,461.08	117,064.90	1.95	2.52
1945-46	50	1,361,440	1,857,020.37	67,778	20.1		167,045.16	136,567.09	2.01	2.46
1946-47	53	1,412,860	2,072,274.21	68,493	20.6		198,115.27	145,292.51	2.12	2.89
1947-48	53	1,417,320	2,208,919.12	66,347	21.4		203,888.11	161,471.05	2.43	3.07
1948-49	54	1,436,480	2,486,277.28	71,393	20.1		204,012.40	175,666.27	2.46	2.86
1949-50	54	1,439,680	2,809,196.14	70,308	20.5		211,624.23	172,255.25	2.45	3.01
1950-51	56	1,521,080	3,237,330.55	68,858	22.1		221,129.45	217,867.15	3.16	3.21
1951-52	57	1,574,642	3,426,586.10	77,240	20.4		335,327.16	237,742.13	3.08	4.34
1952-53	59	1,652,020	3,754,098.41	94,137	17.5		438,513.75	373,737.36	3.97	4.66
1953-54	60	1,678,736	3,963,572.83	109,583	15.3		507,179.14	490,807.89	4.48	4.55
1954-55	60	1,696,900	4,273,916.79	106,322	15.9		496,805.78	466,153.69	4.38	4.66
1955-56	60	1,728,700	4,509,668.59	108,499	15.8		499,045.13	501,540.73	4.67	4.60
1956-57	61	1,759,570	4,832,863.47	117,441	14.9		548,601.01	508,002.83	4.33	4.67
1957-58	61	1,796,275	5,119,317.01	119,398	15.0		552,938.40	607,129.23	5.08	4.63
1958-59	62	1,815,265	5,509,958.43	117,032	15.5		542,606.90	686,448.88	5.87	4.64
1959-60	64	1,818,464	5,800,342.43	124,812	14.6		705,785.32	742,915.21	5.95	5.65
1960-61	65	1,896,173	6,254,224.42	122,813	15.4		656,708.97	879,811.85	7.15	5.35
							6,987,052.91	6,924,945.07		

x - A livestock unit indicates one head of cattle, one horse, or five sheep.

A pasture unit may include one or more pastures, but it is operated under one management.

APPENDIX VI

P.F.R.A. COMMUNITY PASTURES IN OPERATION DURING THE FISCAL YEAR ENDED MARCH 31, 1961

Community Pasture & Headquarters	Total Area of Pasture Fenced (Acres)	Accumulated Cost of Construction March 31, 1960	Accumulated Cost of Construction March 31, 1961	1960-1961 Stock Pastured	
				Cattle	Horses
SASKATCHEWAN					
Pasture Units					
Coalfields #4, North Portal	32,860	163,997.39	168,350.39	3155	69
Estevan Cambria #5-6, Macoun	6,720	18,856.56	20,196.57	272	9
Masefield #17, Orkney	36,320	115,431.66	116,697.63	1691	-
Lone Tree #18, Bracken	33,600	96,816.71	100,350.71	1363	-
Battle Creek #20, Divide	69,920	165,363.82	169,123.89	2997	-
Nashlyn, #21, Consul	61,520	92,704.07	97,211.43	2470	4
Govenlock #22, Govenlock	68,800	113,034.45	118,191.72	2096	2
Lomond #37, Pasture #1, Goodwater	23,360	86,149.83	91,750.96	2447	33
Lomond #37, Pasture #3, Maxim	18,400	83,139.62	84,741.93	1465	22
Laurier #38, Lomond #37 - #2, Radville	37,175	108,999.43	113,128.19	2852	67
The Gap #39, Ceylon	13,920	88,258.98	90,718.80	1250	26
Val Marie #47, Pasture #1, Val Marie	110,000	276,438.53	280,003.90	5529	2
Val Marie-Beaver Valley #47A					
Pasture #2, Cadillac	57,680	25,810.86	57,203.67	2852	23
Reno #51, Pasture #1, Robsart	17,120	63,533.54	63,533.54	1108	7
Reno #51, Pasture #2, Consul	11,360	29,877.83	29,877.83	626	-
Tecumseh #65, Forget	18,400	80,867.55	82,558.52	1831	20
Brokenshell #68, Pasture #1, Yellow Grass	22,720	101,634.48	107,794.02	1695	58
Brokenshell #68, Pasture #2, Weyburn	8,160	16,060.94	16,651.04	348	1
Excel #71, Ormiston	20,500	71,620.87	79,670.48	1814	-
Key West #70, Kayville	10,240	35,019.95	38,428.53	1007	4
Auvergne Wise Creek #76-77, Cadillac	42,880	140,908.90	149,257.05	3437	-
Wellington #97, Tyvan	25,360	112,798.36	118,817.95	2672	51
Caledonia-Elmsthorpe #99-100, Milestone	26,400	119,105.66	120,757.03	1621	45
Shamrock #134, Shamrock	26,080	87,126.19	87,147.26	1408	-
Swift Current-Webb #137-8, Swift Current	18,720	83,526.75	83,756.75	1573	-
Gull Lake #139, Tompkins	10,720	32,362.21	34,490.60	634	-
Big Stick #141, Maple Creek	21,860	45,456.24	46,863.40	1361	-

Community Pasture & Headquarters	Total Area of Pasture Fenced (Acres)	Accumulated Cost of Construction March 31, 1960	Accumulated Cost of Construction March 31, 1961	1960-1961		
				Cattle	Horses	Sheep
SASKATCHEWAN - (Cont'd.)						
Pasture Units	43,710	124,616.36	127,956.07	2720	-	-
Bitter Lake #142, Maple Creek	19,570	58,080.61	58,871.71	2466	18	-
Spy Hill #152, Welby (operated in con- junction with Ellice, Man.)	30,080	80,810.89	84,600.53	1898	49	-
Elbow #223-4, Elbow	44,160	139,106.59	143,617.54	3979	147	-
Beaver Hills #245-6, Homefield P.O.	13,280	83,951.32	84,903.92	1608	10	-
Willner #253, Davidson	27,520	64,191.82	64,261.84	1525	18	-
Coteau #255, Birsay	46,840	111,548.24	111,984.14	3041	22	-
Monet #257, Elrose	17,000	120,035.08	123,963.45	1319	-	-
Fairview #258, Chipperfield	52,960	174,521.22	181,205.44	3194	27	-
Newcombe #260, Glidden	24,960	75,479.98	81,666.07	1766	-	-
Mantario #262, Empress, Alta.	9,920	72,036.12	78,962.31	852	6	-
Cote #271, Togo	31,540	108,690.49	110,173.39	2086	-	-
Mt. Hope Prairie Rose #279-309, Semans	13,869	81,953.33	83,615.95	1256	-	-
Wreford #280, Hatfield	10,720	69,677.74	69,895.27	1395	-	-
McCraney #282, Davidson	19,200	90,182.57	90,880.19	1564	48	-
Rudy Rosedale #284-3, Broderick	13,600	56,700.27	56,880.27	860	-	-
Hillsburgh #289, Brock	23,249	91,923.67	95,768.42	1124	-	-
Eagle Lake #289-319, Netherhill	21,400	116,329.00	121,382.25	1741	12	-
Kindersley-Elma #290-1, Smiley	12,680	57,171.79	58,956.64	1274	-	-
Usborne #310, Venn	44,840	113,796.29	114,757.38	2309	-	-
Dundurn #314, Dundurn	21,600	78,176.02	78,341.95	1265	-	-
Montrose #315, Donavon	20,800	64,738.08	75,411.20	1297	13	-
Oakdale #320, Beaufield	34,320	111,225.88	112,818.28	2683	21	-
Antelope Park #322, Hoosier	17,280	73,594.20	76,857.29	1968	-	-
Wolverine #340, Plunkett	26,880	95,256.40	103,040.78	1775	-	-
Mariposa #350, Kerrobert	19,680	66,968.47	67,877.84	1546	-	-
Progress #351, Kerrobert	15,520	60,927.33	63,740.01	1785	-	-
Hearts Hill #352, Compeer, Alta.						

750

Community Pasture & Headquarters	Total Area of Pasture Fenced (Acres)	Accumulated Cost of Construction March 31, 1960	Accumulated Cost of Construction March 31, 1961	1960-1961		
				Cattle	Horses	Sheep
SASKATCHEWAN - (Cont'd)						
Park #375, Langham	7,040	22,633.89	22,633.89	408	-	-
Battle River-Cutknife #438-9, Gallivan	31,680	91,481.39	99,026.56	1394	29	29
Royal #465, Marcelin	65,120	228,106.43	233,949.90	3380	39	39
Paynton #470, Paynton	24,480	84,987.55	88,978.58	1474	20	20
Totals for Saskatchewan	1,656,293	5,323,800.40	5,534,252.85	108,526	922	750

Special Project - Bitter Lake Irrigation included in Bitter Lake Pasture.

MANITOBA

Pasture Units											
Ellice Pasture, Welby, Sask. (operated in conjunction with Spy Hill #152)	20,320	28,746.37	28,746.37								
Archie Pasture, Welwyn, Sask.	39,740	95,100.33	97,852.50			1387	19	1500			
Portage Pasture, Poplar Point	14,640	44,793.85	46,399.28			2645	30				
Woodlands Pasture, Poplar Point	20,960	70,180.39	70,992.27			2870	81				
Lakeview Pasture, Langruth	29,280	81,122.96	82,148.14			1738	7				
Westbourne Pasture, Gladstone	11,520	49,247.79	51,419.83			1109	8				
Langford Pasture, Neepawa	20,000	73,670.71	76,670.69			2253	15				
San Clara Pasture, Togo	8,320	33,679.63	33,679.63								
McCreary Pasture, McCreary	71,820		232,062.86								
Wallace Pasture, Elkhorn	3,280					738	15				
							</				

x - Figures for stock pastured in San Clara included in Cote #271

GRAND TOTALS

1,896,173	5,800,342.43	6,254,224.42	121,266	1,097	2,250
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APPENDIX VII
MAJOR PROJECTS - IRRIGATION, RECLAMATION AND WATER STORAGE
 (Projects by Special Votes of Parliament, Administered by P.F.R.A. to March 31, 1961)

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
MANITOBA						
Assiniboine River Diking & Cut Off	Brandon	River Control	Incomplete	-	-	1,091,505.00
North-West Escarpment Reclamation Proj.-Riding Mt. Area	Dauphin	Watershed Control	Incomplete	-	-	1,059,700.00
Fairford River Project	Lake Manitoba	Flood Control	1960	-	-	112,316.00
Saskatchewan River Reclamation - Pasquia Area	The Pas	Reclamation	Incomplete	135,000	-	2,243,069.00
ALBERTA						
Bow River	Medicine Hat	Irrigation	Incomplete	235,000	408,862	54,398.00
(a) Purchase of Canada Land & Irrigation Company						2,353,182.00
(b) Development & Construction						20,960,498.00
St. Mary	Lethbridge	Irrigation	Incomplete	510,000	320,000	14,602,869.00
Belly River Diversion	Lethbridge	Irrigation	1950	-	-	53,901.00
BRITISH COLUMBIA						
Cawston Benches	Keremeos	Irrigation (pump)	1951	629	2,000	185,491.00
Chase & Johnston - Western Canada Ranching	Kamloops	Irrigation	1951	755	-	98,243.00
Western Canada Ranching #2	Kamloops	Irrigation (pump)	1950	54	-	58,069.00
Lillooet - Pemberton	Pemberton	River Control	1953	-	-	1,056,539.00
South Thompson - Niskonlith Gravity Project	Kamloops	Irrigation	Incomplete	1,030	1,200	12,282.00
Westbank Project	Kelowna	Irrigation	1950	1,200	2,500	537,450.00
Bankhead Irrigation Project	Kelowna	Irrigation	1951	92	-	32,229.00
Penticton West Bench	Penticton	Irrigation (pump)	1953	800	-	66,362.00
B.C. Fruitlands	Kamloops	Irrigation	Incomplete	2,000	-	200,000.00

(Above includes ONLY Construction Costs)

Name of Project	Location	Type of Project	Completed	Irr. Ac.	Stor. Cap. Acre Feet	Costs
SASKATCHEWAN						
South Saskatchewan River Project	Outlook	Multi-purpose	Incomplete	500,000 (Including 24,000 in Qu'Appelle extension)	-	16,657,378.00
Buffalo Pound Project	Qu'Appelle Valley	Urban Water Supply	1960	-	42,000	2,111,799.00
- Eyebrow Lake Diversion	Eyebrow	Water Supply	1960	-	-	98,376.00
(Above includes ONLY Construction Costs)						
GRAND TOTALS						
121,266 1,097,225						

YLBENDIX AII

APPENDIX VIII
PRAIRIE FARM REHABILITATION ACT - EXPENDITURES BY ACTIVITIES
April 1, 1935 - March 31, 1961

ADMINISTRATION

Ottawa and Regina Administration	\$ 2,443,129
Engineering Services - Surveys, Design, Soil Mechanics, Drainage Studies, Legal Surveys, Supervision of Construction	18,799,766

LAND UTILIZATION

Cultural work - Soil Drifting, etc. (Exp. Farm Service)	4,966,394
Community Pastures - Construction, Operation & Maintenance Movement of Settlers	19,596,592 227,841

WATER DEVELOPMENT

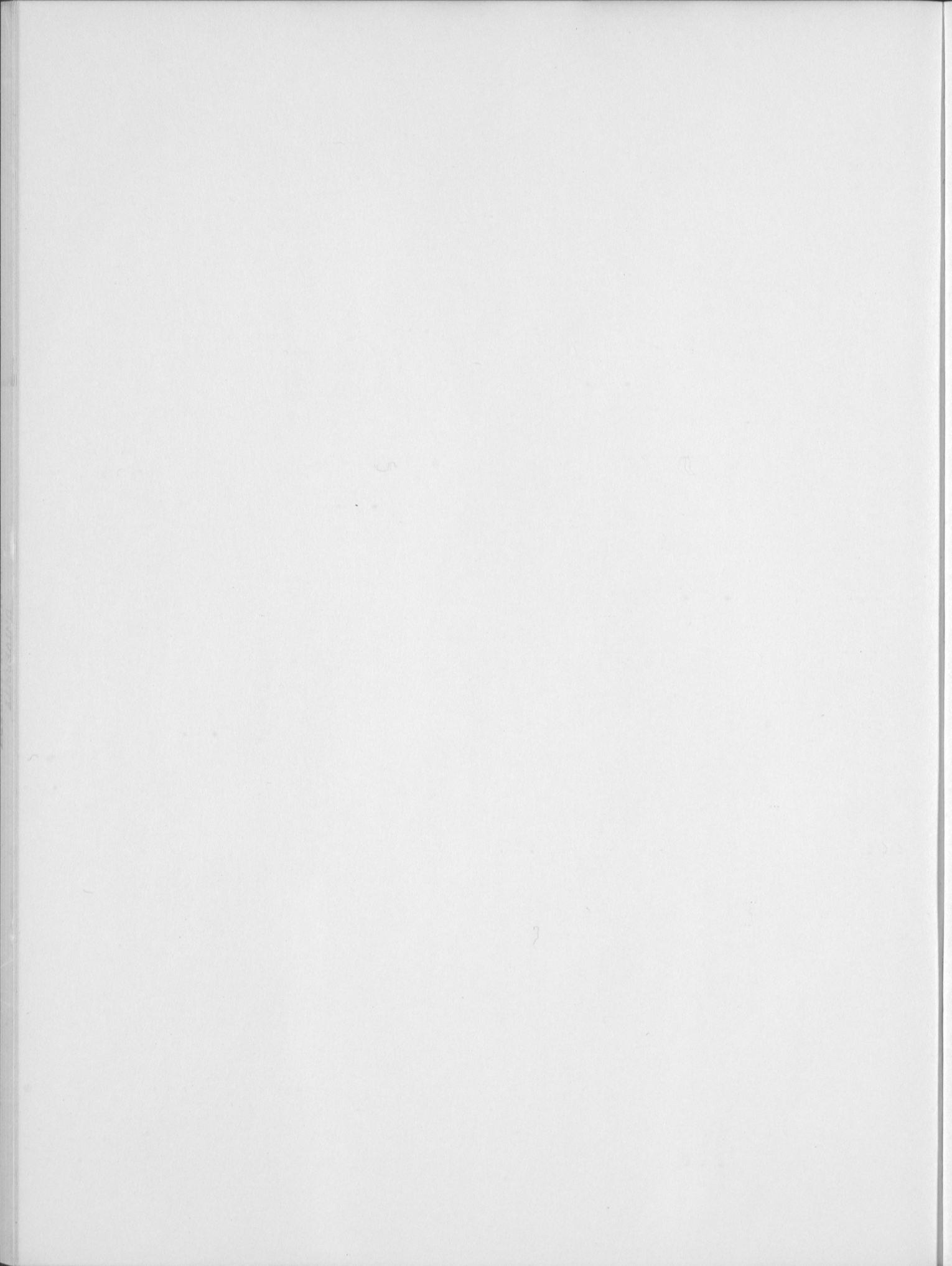
Small Farm Projects	21,116,107
Community, Large Water Storage & Irrigation Projects Supervision	18,143,842 2,970,273
Equipment - Purchase and Repairs, Service Depot	6,776,272

MAJOR PROJECTS, IRRIGATION, RECLAMATION & CONSERVATION

St. Mary's Irrigation Project	21,797,009
Bow River Irrigation Project	29,377,408
South Saskatchewan River Project	23,855,969
Assiniboine River Dyking	1,254,635
B.C. Reclamation & Development, incl. Lillooet Project	3,310,182
Land Protection & Reclamation, Manitoba & Eastern Canada	3,568,862
Miscellaneous Projects - Construction	3,999,036
	\$ 182,203,317

REVENUE:

Community Pasture Operations	\$ 7,472,063
Irrigation Project Operation & General Revenue	3,637,230
	\$ 11,109,293



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HD 1781 A2 P8222 1960/1961
CANADA PRAIRIE FARM
REHABILITATION ADMINISTRATION
PRAIRIE FARM REHABILITATION
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QUEEN'S PRINTER AND CONTROLLER OF STATIONERY
OTTAWA, 1962